Employment Relations in Transition: An Examination of Workers' Self-Assessments of Job Quality, 1970-2006

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A dissertation

submitted in partial fulfillment of the

requirements for the degree of

Doctor of Philosophy

University of Washington

2015

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Sociology

University of Washington

Abstract

Employment Relations in Transition: An Examination of Workers' Self-Assessments of Job Quality, 1970-2006

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My dissertation uses data from three sources from 1970 to 2006 to explore trends in American workers' self-assessed perceptions of job quality over time. I find evidence that contemporary workers tend to assess their jobs more negatively when compared to their 1970s counterparts. This finding is robust to examinations of measurement equivalency across survey instruments. Further, my findings are consistent with a body of research documenting a general deterioration of working conditions in the United States since the mid-1970s. To the best of my knowledge this is the first attempt to document trends on multiple dimensions of perceived job quality, over a span of thirty-six years.

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For Mom and Dad

Chapter 1

Worker Well-Being in the United States, 1900 - Present

Work is important. Work does much more than provide an opportunity to meet financial needs. Work provides structure to one's life – a daily routine that serves as a prime organizer of the way we spend our time. For many, work is also intrinsically meaningful. The act of working often has value in and of itself. Further, American identities are often inexorably bound to the types of work one performs. Indeed, one of the questions first asked upon meeting a new acquaintance is often, "what do you do"? The importance of work to Americans is also reflected in our survey data. Indeed, a quick scan of the General Social Survey Cumulative Datafiles for the years 1972 to 2006 reveals a third of Americans agree that work is *the most important* activity in their lives. Clearly, American lives are heavily influenced by our experiences with employment.

Work is important to us because of the rewards it confers. Among these rewards, financial remuneration for our efforts is clearly one of the most important. However, employment provides a broad array of benefits to its incumbents. Workers gain from employment that provides an opportunity to develop one's skills, or express one's individuality. Many value a job that allows them to "help people". Others prefer employment that requires individual initiative and allows for greater discretion. Most people value the companionship and espirit de corps made possible by their proximity to fellow workers. Still others value a job that allows "room for growth" by providing pathways to a better working future. Finally, many workers place great value on a stable job – an (at least implicit) promise from one's employer that there will, in fact, be work tomorrow.

While the rewards bestowed by work are variegated, people likely make judgments regarding their overall job quality by assessing some mixture of rewards to which their job provides access. It is clear to everyone that not all jobs provide equal access to the rewards most people value when

making assessments of job quality. Further, it is also clear that American workers' access to sources of job rewards has not remained constant over time. In some periods, employers have been more likely to offer jobs that allow relatively unfettered access to employment rewards, whereas other eras are characterized by an abundance of jobs most workers find relatively undesirable.

In this respect, my dissertation owes a great deal to the writings of Karl Polanyi. About seventy years ago Polanyi identified two key concepts, which he claimed oriented the relationship between workers and the economy in which they were embedded. On the one hand, Polanyi (1944) claimed modern society is characterized by a reverence for the free market. This embrace of economic liberalism is often associated with a laissez-faire attitude towards the workings of capitalist markets. On the other hand, Polanyi claimed modern societies also value economic security. Our concern with security compels us to erect protections that shield individuals from the full consequences of economic misfortune. It is important to note that these two sets of values are often contradictory. One typically cannot enact laws protecting workers from the brunt of an economic downturn without infringing on the prerogatives of economic liberalism (Polanyi, 1944). Polanyi referred to the interplay between our desire for economic liberalism and our want for economic security as the "Double Movement". Further, he conceptualized the Double Movement using language suggestive of a struggle. In some periods, the libertarians win – and are able to more freely infuse their laissez-faire values into the fabric of social institutions. However, in other eras, the protectionists hold sway – and are better able to place constraints on the workings of the free market in the name of buffering individuals from economic risk. It is possible to think of American economic history – at least since the late-1800s – as a reflection of Polanyi's Double Movement. Indeed, the struggle between economic liberalism and social protection is still very much a part of the contemporary political landscape.

In what follows, I will document changes in how American workers assess the extent to which their jobs provide access to work-related rewards over time. I make the claim that workers' self-assessments of their jobs provides a useful barometer for determining the extent to which work is organized in a fashion favorable to the employee. Further, I claim that periods in which more workers express satisfaction with their jobs suggest an economic landscape largely shaped by those embracing the security-side of the double movement. On the other hand, periods in which workplace dissatisfaction is rampant are likely to emerge from periods in which economic liberalism is allowed to flourish untrammeled.

Ultimately, my dissertation is a story about how the contradictory values associated with Polanyi's double movement color the relationship between worker and employer. Hence my dissertation is, in its purest form, a study of changing employment relations. With that in mind, a brief foray into the history of American employment relations provides a useful starting point for my analysis.

The Drive System – Employment Relations At the Turn of the Twentieth Century

Sanford Jacoby (2004) claims employment relationships prior 1915 were characterized by an effort on the part of employers to secure greater control over labor by limiting workers' discretion in terms of work pace and methods. Employers found it profitable to place constraints on the actions of the worker, and to constantly monitor compliance with these constraints. Emblematic of these efforts were attempts on the part of management to make work more "scientific". Perhaps no one person better represents this push for the introduction of "scientific management" than does its progenitor – Fredrick Winslow Taylor. Taylor claimed the most efficient way to organize work is to break it down into its constituent parts. By transforming a relatively complicated problem (e.g. the manufacture of an automobile) into a series of simple tasks, employers are better able to exert full control over the production process (Taylor, 1911). In times past, employers were more likely to rely

on the ingenuity and expertise of the craftsman to solve any problems that emerged during the production process. One problem with this approach – at least according to employers at the turn of the 20th Century – was that it introduced too much uncertainty. By the early 20th Century, Americans had become accustomed to standardized consumer products, and over-reliance on the ad hoc approach of the craftsman could potentially place standardization in jeopardy. By de-skilling work – transforming work into something that could be performed by rote – employers wrested control of the productive process from skilled workers. By 1915, the degree of control the typical workingman had over his work was severely circumscribed. Instead, the content of his work was explicitly dictated to him by management. Further, this content often consisted of the simplest of tasks – repetitive motions performed under the specter of constant surveillance.

Surveillance duties were often the responsibility of the foreman. Factory labor at the turn of the 20th Century featured a supervisory class with almost dictatorial control over the process of production. Not only was the foreman responsible for making sure workers followed the precise directives of management, he often had almost exclusive control over who was hired and who was dismissed. There were few rules constraining the foreman in these matters. Perhaps not surprisingly, many foreman based their hiring decisions on suspect criteria. Nepotism, racial preferences and corruption often influenced the hiring process. For instance, Jacoby (2004) claims many foremen were receptive to bribery from potential hires. Sometimes, the hiring decision came down to who could supply the foreman with the greatest quantities of whiskey and cigars. Further, the foreman's discipline was often severe. Workers who were too slow were subject to profanity, threats and, occasionally, physical abuse. If these tactics proved ineffective, the foreman frequently had absolute power to fire any worker – for any reason whatsoever.

Given the dreary nature of de-skilled work at the turn of the 20th Century one may wonder why workers put up with it. The short answer is, they had little choice in the matter. The main alternative to factory employment, for non-farm workers, was unemployment. Given the underdeveloped state of the social welfare system, unemployment was usually an even more unattractive option than the foreman's despotism.

Jacoby (2004) labeled this conflict-ridden form of employment relations the "drive" system. Ultimately, the drive system was fueled by fear of unemployment. Workers, having little opportunity to resist, begrudgingly submitted to the terms laid down by their employers. Further, management, at least in some cases, seemed aware of their reliance on fear to motivate workers as evidenced by the following interaction between an assistant superintendent and a foreman:

> "'Bill', he said to the foreman, 'has anyone been fired from this shop today?' 'No', the foreman meekly replied. 'Well, then, fire a couple of 'em' barked the assistant superintendent, in a voice that carried. 'It'll put the fear of God in their hearts'" (Slichter, 1919 pp. 184)

Employment Relations in Transition: The Gradual Decline of the Drive System

While most employers were satisfied with many aspects of the drive system, it was not without its flaws. For one, the drive system entailed a number of costs to employers that could, at least potentially, be remedied by relying on some other organization of the employment relationship. As noted above, the drive system tended to place a great deal of discretion in the hands of the foreman. This decentralization of power had the potential to hinder coordination between different units in the firm (Noble, 1977; Layton, 1971; Jenks, 1960). Further, the employer lacked any guarantee the foreman's discretion would actually generate profits for the company. Given the evidence of corruption presented earlier, it was certainly reasonable for employers to be suspicious of the ways in which foremen actually exercised their authority. Finally, the nostrums of scientific management were often deemed to be beyond the typical foreman's capabilities. Taylor himself advocated the

transfer of "brain work" from the shop floor to the engineer's office (Gilbreth, 1918; Emerson, 1912; Taylor, 1911).

In addition to the possibility of introducing administrative costs, employers' reliance on the despotic foreman was one of labor's chief grievances. A minority of employers in the early 20th Century began to respond to these protests by placing constraints on foreman discretion (Ramirez, 1978; Hilbert, 1906). Nowhere was the discretion of the foreman so severely abrogated as in the realm of hiring and dismissal. While the circumscription of the foreman's powers was primarily motivated by employers need to secure a stable supply of labor (particularly in periods where labor markets were tight) the lessons of scientific management were a factor here as well. The rough-and-ready way in which foreman hired and fired workers came to be seen as inconsistent with the measured rationality of the scientifically-minded engineer. Hence decisions such as hiring and dismissal must be removed from the purview of the capricious foreman and placed into the hands of the trained specialist (Eilbert, 1959; Climer, 1927).

Thus the emergence of scientific management did more than de-skill jobs in the name of greater efficiency. It also helped to usher in a new class of worker – the human resource specialist. In those firms that more fully embraced scientific management, it was the personnel manager who was responsible for ensuring adequate communication took place between, for example, the production and logistics departments. It was the personnel manager who monitored worker performance in accordance with rationally constructed time-motion standards. Personnel managers were responsible for assessing the qualifications, and ultimately offering employment to job applicants. And it was the personnel manager who was more likely to deal with disputes between workers and management. All of this authority that redounded to the human resource specialist was once firmly in the domain of the foreman.

The transfer of power from the foreman to the personnel manager served as a bellwether of changes to come. By limiting the foreman's authority to exercise discretion, some of the sharp edges that characterized the drive system were worn down. Further, the transfer of hiring, firing and promotion decisions to the personnel department served to undermine the drive system by reducing the role of fear in motivating worker performance. Human resource managers, unlike foremen, occupied a position that was organized in accordance with "scientific" principles (Litterer, 1963). As opposed to the foreman's irrational caprice, the personnel department operated within the confines of a set of codified rules – rules written to facilitate rationally optimal outcomes. To be sure, workers in the early 1900s still had to fear unemployment. But at least when confronted with unemployment, the personnel department gave them a fair-minded reason for the necessity of their predicament.

Further, Jacoby (2004) claims a sizable percentage of personnel managers in the early 20th Century were relatively liberal in their political leanings. These managers were sometimes successful in interjecting their liberal values into the workings of the employer. For example, during periods when labor market conditions were particularly tight, a few human resource departments were able to introduce small-scale insurance and pension programs. The establishment of insurance programs for workers during the early 20th Century marked the first sign of the private welfare capitalism that would become commonplace in later years.

However, the pace of change was uneven. For one thing, many foremen didn't appreciate their diminished role within the firm. The sting of lost authority became even more acute when power, formerly under the purview of the foremen, was transferred to a group of "soft handed college boys" who had never worked a "real" job in their lives. Unsurprisingly, foremen tended to fight against incursions on their territory by the personnel department wherever possible (Kennedy, 1920). However, the penetration of "scientific" management into the realm of human relations was

probably most hindered by the cyclical downturns that were commonplace in the early 20th Century. The loosening of labor markets that emerged as a result of an economic recession gave employers an incentive to retrench. When labor was plentiful (and desperate) many employers saw little reason to stray from the drive system (Douglas, 1922; Douglas, 1920). Recessionary periods in the early 20th Century tended to be bad for workers. For example, unemployment rates during the depression of 1920-1921 may have reached double digits (Romer, 1986). Hence it is somewhat ironic that truly meaningful change in the employment relationship would only be brought about in the wake of an economic catastrophe of disastrous proportions.

Employment Relations in Transition: The Construction of the Labor-Capital Accord

On October, 28th 1929 the Dow Jones Industrial Average lost nearly 13% of its value. The following day, if fell by an additional 12%. The depression that would emerge in the wake of the stock market crash of 1929 was deeply traumatic. Although the effects of the Great Depression inflicted untold pain on the lives of those who lived through it, the depression also helped pave the way to a new form of organizing employment relations. Further, this new way of doing things was widely regarded as a net gain for workers. In what follows, I will provide an account of how the events of the 1930s and 1940s helped to bring about the end of the old drive system.

At the outset of the Great Depression, employers put forth a relatively muted response. There were some calls for employers to "de-seasonalize" work in an effort to provide workers with something to do on a year-round basis (Jacoby, 2004). Some employers tried to avoid wage cuts as a means of propping up aggregate demand. Unfortunately, prices fell so low as to render this strategy untenable as the depression dragged on (Bernstein, 2010; Hawkins & Blum, 1932). A number of employers also advocated job sharing as a tool to avoid layoffs. However, when the number of hours given to

workers dipped to the point where weekly earnings fell below subsistence levels, many employers resorted to lay-offs out of necessity (Sloan, 1932).

These voluntary efforts ultimately fell short of alleviating the suffering caused by the depression. Further exacerbating the problem was the disadvantaged position of organized labor. Due to the extreme scarcity of jobs in the labor market, employers virtually always had the upper hand in their dealings with unions. In the short-run, poor labor market conditions and weakened unions led employers to abandon earlier experiments with bureaucratically organized human relations and early forms of welfare capitalism. The drive system, at least for a while, appeared resurgent (Schatz, 1932; Richards, 1930). However, big changes were on the horizon. Not the least of which was the passage of the National Industrial Recovery Act (NIRA) of 1933, which would pave the way to a fundamental re-alignment of the worker-employer relationship.

Arguably the most important clause in the NIRA was section 7(a). Section 7(a) explicitly grants workers the right to form unions, and to collectively bargain over wages and other conditions of employment (Jacoby, 2004). While the Supreme Court struck down key provisions of the NIRA in 1935, unionization and collective bargaining rights were preserved by the passage of the of the National Labor Relations Act (The Wagner Act) later that year. In addition to granting workers the rights to unionize and collectively bargain, the Wagner Act established the National Labor Relations Board to monitor union representation elections, as well as enforce existing labor law. As a consequence of the federal government's endorsement of collective bargaining rights, a strong upsurge in unionization and labor militancy quickly materialized. By 1935 – just two years after the passage of the NIRA – one in three industrial workers belonged to a labor union (Millis & Montgomery, 1945).

While the Great Depression provided the impetus for change in employment relations, the outbreak of World War II sealed its legacy. The labor shortages that emerged from the forced conscription of a sizable portion of the working-age male population further strengthened workers' bargaining position. Employers, desperate to fill wartime vacancies, and limited in their legal options to oppose unions, were increasingly forced to grant concessions (Millis & Montgomery, 1945; Brooks, 1940).

Although the wartime unemployment rate was very low, many workers feared a post-war recession. Consequently job security was a chief priority of organized labor in their negotiations with management. In an effort to impose job security, at least among older workers, labor began demanding the establishment of seniority rules (Armstrong, 1942; Harbison, 1940; Schatz, 1932). While seniority rules were not immediately beneficial to all workers, they demarcated a concrete set of principles upon which job security would be sustained. Layoffs would henceforth be determined by an objectively measureable tenure criteria rather than the foreman's whim. In addition to seniority rules, unions also frequently sought the inclusion of re-hire clauses in contract negotiations. Although unions could not prohibit employers from laying off workers in bad times, they attempted to stipulate that laid-off workers be re-hired as soon as it became feasible to do so (Golden & Ruttenberg, 1942). The establishment of due process in the realm of disciplinary action was another area in which unions attempted to generate greater job security for their members. By providing recourse to workers accused of wrongdoing, unions were attempting to minimize the extent to which an employee could be disciplined for petty, or capricious, reasons (Witte, 1954; Graham, 1941).

In short, by limiting employers range of options in regards to 1) who can be laid off, 2) who can be hired (or re-hired), and 3) who (and under what circumstances) can be disciplined, unions were attempting to establish a form of property rights to jobs. In this vision of the employment

relationship, jobs can almost be thought of as belonging to workers. Severe limits were placed on employers' ability to sever the link between worker and job. Increasingly, the only reasons providing sufficient justification for an employer to break the worker-job connection were an exceptionally bad economy, or an outright abdication of duties by the worker. The diffusion of the idea that workers had something resembling an ownership stake in their jobs is well illustrated by the following quote regarding the efforts of the Congress of Industrial Organizations (CIO) – one of the chief labor unions of its day.

> "Two officials from the steelworkers' union could claim in 1941 that the CIO unions had 'introduced a new doctrine into American industry… namely, once management has hired an employee who makes good… it must continue to give employment or preference for employment to that employee" (Jacoby, pp. 180)

However the wartime gains experienced by workers were not limited to the unionized sector. Among non-union employers, the threat of unionization was often taken very seriously. Some employers concluded the best way to avoid a unionization drive was to pre-emptively grant workers the very concessions organized labor were demanding in unionized establishments. By granting workers more favorable terms of employment, non-unionized employers were attempting to undercut the appeal of unions to workers. High rates of unionization, coupled with the threat effect among non-union employers, contributed to the rise of "patterned" employment relations (Farber, 2005; Leicht, 1989). Among unionized firms, new contracts often heavily borrowed from the language of contracts negotiated by other unionized firms. Among non-unionized firms, many of the employment practices of their unionized brethren were introduced as a means of union avoidance. Hence the terms of employment, in both unionized and non-unionized organizations, were increasingly shaped by the demands of organized labor.

One of these demands (in addition to the job security and due process demands discussed above) concerned pay equity. Under the drive system the foreman was free to allocate wages as he saw fit. As a consequence, it was possible for two similarly situated employees to be paid substantially different wages. In order to correct these inequities, unions demanded wages be standardized according to rational criteria such as those put forth by the newly published Dictionary of Occupational Titles. Often, these efforts included demands to increase the wages of workers who were being underpaid vis a vis their peers. In fact, this was one of the very few ways to actually get a raise in the wartime economy as the Federal government had enacted a wage freeze in an effort to stabilize prices (Lester, 1948).

For employers, the wartime wage freeze, coupled with severe labor shortages, presented yet another obstacle to overcome. Frozen wages meant that labor-strapped employers were unable to raise pay in order to lure additional workers. Yet, wartime employers were allowed to compete for scarce labor in the realm of fringe benefits. Forbidden from raising wages, wartime employers expanded pension and insurance programs in an effort to secure enough workers to keep pace with wartime demand (Hay, 1945; Hill & Hook, 1945).

The end of the War, however, removed thousands of American soldiers from the battlefield and returned them to the labor market. The scarcity of labor that characterized the wartime economy came to an abrupt end. Further, the cessation of wartime-related production orders put a damper on economic activity. In times past, the re-emergence of an economy less favorable to workers resulted in a retrenchment of the drive system. This time, however, it was not to be. The post-War employment relationship retained (and even intensified) many of the characteristics forged in the turbulence of the 1930s and 1940s.

Employment Relations in Transition: The Post-War Solidification of the Labor-Capital Accord

In the aftermath of the Second World War, the United States found itself in a globally privileged situation. Shielded from the direct effects of war-related destruction by the world's oceans, the U.S. found itself in position to take a leadership role in the re-construction of a war-torn world. American industry, freed – at least temporarily – from the burdens of international competition set forth to produce the food, raw materials, and finished products needed to supply much of the globe. The result of this fortuitous historical outcome was the emergence of a period of unprecedented prosperity in the United States. In the 1950s and 1960s the average American was enjoying a level of material prosperity never before seen. It was during this thriving period that labor and capital made a genuine attempt to more fully redefine the parameters of the employment relationship.

When employers were unresponsive to union demands, workers sometimes relied on strike activities as a means of generating leverage. The sit-down strike was a particularly effective means of resistance (Rubin, 1996). Many large employers of the 1950s and 1960s organized work around the principles of mass production – often this meant using assembly-line-style designs. Therefore, spontaneous work stoppages, such as sit-down strikes, had the potential to disrupt production in a manner that imposed serious costs to employers. From the perspective of many employers, the frequent work stoppages associated with an adversarial management-labor relationship made little sense. Time spent battling a recalcitrant labor force was time not spent producing goods and services to be sold at a profit. Stability in employment relations came to be seen by management as a desirous outcome as fewer interruptions generally translated to greater predictability and profitability. Limited in their range of options by a strong union presence, post-war employers responded to labor-management conflict with one of the few tools left at their disposal – management increasingly set out to purchase the peace.

Perhaps nowhere was this better illustrated than the 1950 labor contract negotiated by the United Auto Workers (UAW) and General Motors (GM). According to the terms of this contract, workers agreed to cease all strike activity in exchange for medical, unemployment and pension benefits, as well as annual cost-of-living increases in pay. The entente between GM and the UAW – which in later years came to be known as the Treaty of Detroit – represented a symbolic end to the old-style drive system of human relations. Due primarily to the presence of a strong labor union, General Motors came to the conclusion that fear of job loss could no longer serve as the primary motivation for exerting control over workers. Instead, GM sought to elicit productivity by shielding workers from many of the risks inherent in a capitalist economy. For example, GM made a commitment to avoid layoffs whenever possible – and when unavoidable, pledged to re-hire laid off workers as soon as conditions improved. Furthermore, the health and pension benefits stipulated by the 1950 contract provided some protection against risks associated with illness and old age, and annual pay raises helped workers to mitigate the effects of inflation. Having given up on the stick as a means of generating worker consent, GM turned to the carrot.

While the Treaty of Detroit only directly applied to a small portion of the overall labor force, employment relations (at least among large employers) in the immediate post-war era came to increasingly reflect the GM model. Employers, eager to capitalize on the stability made possible by prolonged periods of labor-management peace, frequently provided workers with job security, explicitly defined career ladders, and regular pay raises (Dobbin et al, 1988). Pledges such as these provided many workers with an environment in which they were relatively free from some of the anxieties present in earlier times. In addition to helping to relieve workers from the stresses associated with paying bills and putting food on the table, the security afforded by this new model of employment relations provided, in some cases, a foundation upon which plan for the future.

Workers who do not have to worry about their short/medium-term employment status are in a better position to buy a house, plan for retirement, or save for a child's college education.

To be clear, the post-war model of employment relations was no panacea. Not all workers had access to Treaty of Detroit-style benefits. For example, minorities and women were, as a general rule, excluded from full participation (Reskin & Padavic, 2002; Anderson, 1982). Moreover, this new way of organizing the worker-employer relationship may have played a role in reinforcing traditional gender roles. Enhanced economic security made it possible for many families to subsist on a single paycheck. In part, because one wage earner was often sufficient to support a family, women's labor market activities were severely circumscribed (Coontz, 2014; Rubin, 1996). Further, the de-skilling of work, advocated by Taylor at the turn of the Twentieth Century, was still very much in vogue. Indeed, much of the literature on worker well-being in the immediate post-war period was concerned with the negative effects of repetitive, monotonous, and tedious tasks that seemed to characterize an ever-growing share of jobs (Braverman, Sweezy & Foster, 1974; Seeman, 1967; Blauner, 1964). Few, if any, decision-making responsibilities were delegated to front-line workers. Instead, most non-managerial workers were expected to perform narrowly defined tasks in accordance with explicitly codified rules (Osterman, 1997).

Despite its disadvantages, the emergence of the postwar model of employment relations can still be viewed as a net gain for American workers. In contrast to work under the drive system, the post-war model was more likely to be characterized by life-long job security, incremental increases in compensation, generous health insurance coverage, secure retirement, and well-defined promotion pathways (Handel, 2005; Cain, 1976; Reich, Gordon & Edwards, 1973; Doeringer & Piore, 1971). However, the emergence of the post-war employment relations model represented more than an expansion of welfare capitalism. Indeed, the demise of the drive system represented an altogether

different way of defining the worker-employer relationship. While the drive system was built primarily on fear of unemployment, employment relations in the post-war era more closely approximated a partnership – albeit, at times, an acrimonious partnership. Indeed, some have described the employment relations of the immediate post-war era as a period of *labor-capital accord* (Kalleberg, 2011; Rubin, 1996; Edwards, 1979).

In contrast to the drive system, workers operating under the guise of the labor-capital accord were more likely to be motivated by norms of reciprocity (Rubin, 1996; Rubin, 2014). In exchange for their efforts and loyalty, many workers in the immediate post-war era were promised relative security, a degree of protection from risk, and greater access to the material rewards necessary to lead a "middle-class" lifestyle. Workers in the period of labor-capital accord did not perform their tasks diligently because they feared the consequences of failing to do so. Instead, high levels of productivity were achieved because workers came to believe hard work was *owed* to employers in exchange for the mitigation of risk and provision of security. Indeed, one of the key premises of the labor-capital accord was that the consent of the worker to subject herself to the needs of her boss was not to be generated by antagonism and fear of economic deprivation. Instead, workers could be persuaded to carry out the aims of their bosses via the establishment of norms of reciprocity. In short, workers agreed to work hard – and employers agreed to provide some protection from economic risk (Rubin, 2012; Rubin, 1996).

Employment Relations in Transition: The Dismantling of the Labor-Capital Accord and the Ascendance of "Flexible Production"

Yet, the labor-capital accord system that permeated employment relations in the years following the Second World War has since been succeeded. Just as the emergence of the labor-capital accord signaled the end of the drive system, a new way of organizing employment relations has transpired and has, in large part, replaced the reciprocity-based systems of the 1950s and 1960s.

Numerous explanations have been put forth regarding the decline of the labor-capital accord model of human relations. Many variants specify globalization (or technological change) as the principle mechanism underlying the shift in employment practices. One common argument suggests the labor-capital accord was undermined by increased competitive pressure emerging – first, from a re-constructed Europe – and later, from a rapidly industrializing East Asia. This increase in foreign competition spurred American employers to look for ways to cut costs.

Osterman (1997) adds to this argument. He claims the combination of robust international competition and technological advancement altered the set of arrangements upon which the old employment relationship model was predicated. A common managerial response to competitive, and technological, changes involved seeking ways to rapidly respond to shifts in customer demands. By adopting a strategy of rapid response, firms hoped to generate profits by consistently providing products on the cutting-edge of consumer tastes. Osterman argues this focus on rapid adaptability was antithetical to the somewhat rigid rules defining accord-era employment. To illustrate, Katz & Sabel (1985) found that "front seat installers" at a General Motors factory would refuse to install back seats. The explicit definition of "front seat installer" as a job title facilitated a work environment in which front seat installers were unable (or, more likely, unwilling) to perform any task outside of their narrowly defined area of expertise. In response to issues such as these, management came to believe that the rigid divisions of labor characteristic of the labor-capital accord-era were becoming increasingly inefficient. Hence employers began to experiment with a variety of new human resource practices.

Yet there is disagreement as to what, exactly, these new practices look like. However, most accounts of workplace transformation agree that contemporary employers are more likely to adopt more "flexible" forms of production. Generally speaking, a flexible style of production seeks to gain a

competitive advantage by rapidly responding to, or actively producing, changes in consumer tastes. For example, in the motorcycle industry, Honda was able to defeat a challenge by upstart Yamaha by continually releasing new models. The sheer number of new designs brought to market by Honda provided customers with the perception that Yamaha motorcycles were older, and hence not as desirable. As a consequence of these perceptions, Honda was able to secure a larger portion of the motorcycle market (Stalk, 1988). However, this style of organization requires a workforce that can rapidly adapt from one product line to the next. Further, employers' demand for adaptable workers - workers who are capable of switching between activities at a moment's notice – is often at odds with the rules- and classification-based employment model of the accord-era. Indeed, this focus on flexibility is seen by some as the *defining* feature of the contemporary economy. Some scholars have even explicitly applied the label "*flexible production*" to our current system of economic- and employment relations (Rubin, 1996; Perrucci, 1994; Harvey, 1989).

The Flexible Production Model of Employment Relations: An Exemplar of Polanyi's Double Movement, or The Steady March of Progress?

Earlier I introduced Polanyi's concept of the Double Movement – an idea which provides a useful theoretical orientation for my dissertation. To review, Polanyi claims Western societies are characterized by a reverence for two sets of values. On the one hand, Polanyi claims we value economic liberalism. A laissez-faire economy, heavily privileging the role of free markets, is emblematic of our embrace of these values. On the other hand, however, we also value economic security. We see our concerns for security take shape in the form of laws and regulations that place constraints on employers in the name of protecting workers. Further, these two sets of values are often in conflict – an expansion of liberalism often comes at the expense of security. For example, the establishment of a wage floor (such as a minimum wage) places non-market constraints on

employer behavior. Employers are required to pay workers at least the minimum wage – even if the wage workers would fetch in the absence of regulation would be lower.

By viewing American economic history through the lens of the Double Movement we are better able to assess the extent to which historical eras were colored by the twin values of liberalism and security. For example, the early 20th Century was an era of few constraints on free markets. As a consequence, the employment relationship tended to be transactional and unstable. In contrast, the other side of the Double Movement – economic security – was privileged during the period of labor-capital accord. Numerous non-market restrictions were placed on the actions of employers during this era. Further, work under the labor-capital accord was more likely to be rooted in norms of reciprocity and be characterized by a long-term orientation.

The juxtaposition of these two eras provides us with a window on how values associated with free-market liberalism, and economic protectionism, color the employment relationship. The conclusion of this juxtaposition is that workers fare "better" in times when non-market forces (governments, unions, shared norms) constrain the behavior of employers (Kalleberg, 2009). However, as I note above, recent economic history has witnessed the emergence of a new form of employment relations. Further, there is much disagreement as to whether the shift to flexible production has been beneficial, or detrimental, from the standpoint of workers. Polanyi's theory of the Double Movement suggests the greater reliance on market mechanisms associated with flexible production should generate a deterioration in worker well-being. Moreover, according to this theory, American employment relations are cyclical. Whereas the emergence of the labor-capital accord represented the ascendency of economic security, the shift to flexible production represents a shift back toward economic liberalism. If this view of changing employment relations is correct, we should expect contemporary workers to fare "worse" than their accord-era counterparts.

On the other hand, the shift to flexible production does not *necessarily* imply a reduction in worker well-being. After all, the history of 20th Century employment relations suggests a trend towards more worker-friendly practices. Perhaps the shift to flexible production represents a continuation of this development. According to this view, the emergence of flexible production represents another step forward in a gradual process of redesigning work in a fashion that is amenable to the needs of workers.

My dissertation seeks to ascertain the veracity of these two competing claims. Has the transition to flexible forms of employment relations represented a net gain, or loss, from the perspective of the American worker? In what follows I will present two competing accounts. One narrative claims the shift to flexible production resulted in a net reduction in the quality of work life. The other account suggests the shift to flexible production entails further advantage to American workers.

The Effects of The Shift to Flexible Production on Worker Well-Being: Two Competing Explanations

The Pessimistic Narrative:

Much of the discussion regarding the nature of change in the way work is designed by employers, and experienced by workers, adheres to one of two commonly cited narratives. One school of thought claims work has become more precarious, more demanding, and laden with greater risk for the average worker. I shall refer to this narrative as the pessimistic account. The core thesis of the pessimistic account is that, beginning in the mid-1970s, competitive, market-based, pressures spurred employers to make greater demands and extract larger concessions from workers (Morris & Western, 1999; Graham, 1993; Gottfried, 1995; Schor, 1991; Harrison & Bluestone, 1988). Further, many versions of the pessimistic narrative claim an erosion in worker well-being is not solely a

consequence of intensified competition, but has been further exacerbated by an institutional enshrinement of organizational and governmental policies at odds with the interests of workers.

An example of organizational change that may have been detrimental from the perspective of workers was the emergence, and subsequent embrace, of a "shareholder value" ethos. In the 1980s and 1990s, many large institutional investors, as well as some individual stock holders, placed pressure on managers to increase the market value of company stock. One way in which this was achieved was to benchmark executive pay to the value of company stock. This served to align the interests of management and shareholders – if stock prices increased, both managers and shareholders would benefit (Useem & Cappelli, 1997). Another way in which investors encouraged management to increase shareholder value was via the restructuring of companies in order to reduce costs. Unfortunately, for workers, much of the cost savings sought by shareholders were achieved by the cutting of jobs. Indeed, in 1993, 42% of all employees reported their employer had undertaken a downsizing (Galinsky et al, 1993). These numbers are consistent with the 47% of companies surveyed by the American Management Association reporting a downsizing event in 1992 or 1993 (Cappelli & Bassi, 1997). In addition, the Displaced Worker Surveys claim that between 1979 and 1991 between 6.4% and 8.5% of workers were annually displaced from their jobs (Cappelli & Bassi, 1997). Further, the consequences accruing to victims of downsizing are frequently severe. Farber (1993) found that workers who were displaced due to downsizing were more likely to experience long-term unemployment. In addition, among those displaced persons who found a replacement job, involuntary part-time work and lower earnings were fairly common outcomes (Farber, 1993)[1]. Even companies that were initially reticent to bolster shareholder value by slashing jobs were

[1] The Bureau of Labor Statistics (BLS) defines long-term unemployment as any bout of unemployment that lasts 27 weeks or longer. Involuntary part-time workers, however, are rather unartfully designated as "part-time for economic reasons".

sometimes compelled to do so. Innovations in debt financing in the 1980s (e.g. "junk bonds") allowed investors to raise large amounts of money in order to purchase a controlling share in a publically traded company (Useem & Cappelli, 1997). Having achieved a controlling share, the new owners could subsequently saddle the newly purchased company with the high-interest financial debt used to make the purchase (Appelbaum & Batt, 2014). The interest on the debt payments alone was often enough to force companies to immediately slash costs. Often this cost cutting took the form of eliminating jobs. Kaplan (1989) claims companies that were the target of such "leveraged buyouts" cut 12% more jobs relative to other employers. These numbers are corroborated by Davis et al's (2011) finding that companies purchased by private equity firms using debt financing shed about 10% more jobs than did other types of businesses.

Further, many scholars in the pessimistic vein claim the effects of these changes go far beyond diminishing employment security. For instance, there is a broad consensus that earnings, for many contemporary workers, have stagnated – especially when compared to the average earnings growth trajectories of workers in in the 50s and 60s (Mishel et al, 2012; Handel, 2005). However, incomes at the top of the earnings distribution have experienced dramatic growth (Piketty, 2007). The combination of stagnating earnings in the middle of the income distribution, and explosive growth at the top, has generated a dramatic dispersion of the overall earnings distribution. While an unambiguously explicit mechanism linking growing earnings inequality and changes in the employer-employee relationship is not readily apparent, the simultaneous emergence of both trends in the mid-1970s suggests possible causal linkages.

Further, an increasing emphasis on flexible forms of production may spur employers to increasingly look externally for talent. The emergence of large numbers of contingent, or otherwise non-standard, workers in the United States is consistent with this interpretation of events (Katz, 1997;

Callaghan & Hartmann, 1991; Belous, 1989). Contingent employment has been repeatedly shown to confer fewer advantages to workers than non-contingent forms of employment (McGovern, Smeaton & Hill, 2004; Kalleberg, Reskin & Hudson, 2000). Hence, stagnating wages and increased inequality may be partially attributable to the substitution of traditional employees with contingent workers. In addition, increases in the frequency of downsizing events and the offshoring of labor have also been cited as examples of practices that, not only are harmful to some groups of workers, but are emblematic of the types of organizational change having the potential to generate negative consequences for American workers writ large (Mishel et al, 2012; Farber, 2008).

Finally, labor unions, arguably the institutions most capable of safeguarding the interests of workers, have also experienced a precipitous decline (Rosenfeld, 2014; Godard, 2009; Clawson & Clawson, 1999). The percentage of all private sector workers belonging to a union has plummeted from about 25% in 1973 to less than 10% in 2009 (Hirsch & McPherson, 2010). The reasons underlying union decline are too complex to be detailed here, but the same forces of globalization and technological change are likely to have played a role. For example, globalization likely made it easier for employers seeking to avoid union representation to relocate to a non-union environment (Gordon, 1996; Rubin, 1996). Furthermore, a technology-induced shift from a goods-based to a service-based economy was detrimental to industries and occupations in which unions were most entrenched (Kalleberg, 2011). These changes were accompanied by the emergence of an explicitly anti-union business strategy embraced by a significant proportion of large employers. While management has always viewed unionization with suspicion, contemporary employers have developed more advanced tactics to undermine worker attempts to organize or join unions (Smith, 2003). Some adherents to the pessimistic narrative point to union decline as compelling evidence of a shift in the balance of power in favor of employers and to the detriment of workers (Western & Rosenfeld, 2011; Rosenfeld, 2010).

In sum, scholars in the pessimistic vein claim reductions in employment security, the stagnation of median wages, increases in earnings inequality, an expansion of the contingent workforce, and a weakened labor movement are all evidence of an employment model that is increasingly out of synch with the needs of workers (Lemieux, 2008; Autor, Katz & Kearny, 2006; Piketty & Saez, 2003).

The Optimistic Narrative:

In contrast to the pessimistic account, a second strand of thought clams that, on balance, work has become a more self-directed and intrinsically rewarding activity (Guest & Conway, 2011; Appelbaum et al. 2000). According to the optimistic narrative, production strategies are increasingly characterized by a dual emphasis on product quality and rapid response to changes in consumer demand. Proponents of the optimistic narrative claim that in order to achieve these twin goals, employers increasingly shifted from the Taylorist practices that embodied the immediate post-war era and towards practices that actively solicited employee involvement (Lengnick-Hall et al, 2009; Appelbaum et al, 2000; Osterman, 1999; Smith, 1997). They further argue that workers who are given greater responsibility and independence are apt to feel more valued by their employers (Guest, 2002; Kim, 2002). In addition, some adherents to the optimistic narrative point to both increases in the educational attainment of workers, and larger proportions of workers in managerial and technical occupations, as evidence that employment relations have shifted away from an emphasis on alienating forms of labor and towards participative models of worker inclusion (Crissey, 2009; Holzer & Lerman, 2009; Autor, Katz & Krueger, 1998).

At the core of the optimistic narrative is the belief that new forms of "high performance work systems" have come to increasingly characterize the American workplace. Appelbaum et al (2000) claim that high performance work systems are composed of three principal elements. First,

employers using high performance work systems allow workers greater opportunity to participate in decision-making responsibilities. By devolving decision-making to the front line, and trusting front-line workers to develop independent solutions to problems as they arise, employers hope to harness the creative talents, and elicit greater discretionary effort, from their workforces (Huselid, 1995; MacDuffie, 1995). The implementation of self-managed teams is a frequently used means of accomplishing these goals (Appelbaum et al, 2000). Indeed, Osterman (1997) claims 54.5% of large firms surveyed in 1994 claimed to organize at least some workers into teams.

In addition to an emphasis on worker participation, Appelbaum et al (2000) claim that high performance work systems are also characterized by a greater focus on worker skills. Their rationale for this focus is straightforward – if workers are to be vested with decision-making power they must have the skills to wield that power in a manner consistent with the aims of the employer. Hence workplaces that adopt high performance practices tend to be more actively involved in worker training. Some argue the emphasis on skills and teamwork associated with high performance work systems has the potential to generate increases in overall workplace productivity (Guthrie, 2001; Huselid, 1995; Kling, 1995).

Finally, Appelbaum et al (2000) claim that high performance work systems are characterized by attempts on the part of management to elicit discretionary effort via the selective implementation of incentives. One way in which high performance employers may encourage discretionary effort is via an explicitly stated commitment to job security. Another way high performance firms motivate workers to provide maximal effort is to allow for flexibility in regard to work-family conflicts. Finally, many high performance employers (as well as some traditional employers) have been implementing pay-for-performance compensation programs – however, it is unclear what effect pay-for-performance may have on worker well-being (Delery & Doty, 1996). Workers whose

compensation is tied to their performance may be under increased pressure to meet organizational goals. This may be especially likely when such pay-for-performance programs are coupled with team-based work. Peer-based pressure from fellow team members may exacerbate workplace stress when the compensation of team members is based on overall team performance (Barker, 1999).

In sum, the optimistic account claims that the diffusion of high performance work systems has worked to generate jobs that are more interesting, require greater worker discretion, and allow workers to better develop their skills.

An Adjudication of the Optimistic and Pessimistic Accounts

Both the optimists and the pessimists present compelling arguments. In fact, recent evidence points to conclusions consistent with both. Some firms appear to have responded to the demise of the old employment relations system by pursuing a "high road" strategy. Such a strategy pursues profit by relying on highly-skilled and relatively autonomous workers to produce products on the cutting-edge of sophistication. In contrast, other employers seem intent on taking the "low road". This strategy involves the heavy use of low-wage, often contingent, workers carrying out de-skilled tasks in a highly circumscribed environment (Levy & Murnane, 1992). Furthermore, this dynamic is complicated by the observation that some firms appear to have simultaneously embraced both types of strategies (see Barley & Kunda, 2011; Smith, 2001)[2]. My dissertation does not seek to determine the characteristics of employers likely to adopt a high- or low-road strategy. Instead, I explore the

[2] Indeed, the proportion of employers having simultaneously embraced low- and high-road strategies appears to be substantial. Kalleberg (2003) estimated that 42- to 67-percent of employers use some combination of low- and high-road human resource practices. Some scholars have coined the term *core-periphery* to describe this dual use of both high- and low-road strategies (Drago, 1998; Harrison, 1994; Osterman, 1988). Furthermore, there is some evidence suggesting employers implement a core-periphery model as a means of protecting highly skilled workers by shifting the risks associated with an economic downturn to the less-skilled workers occupying the periphery (Kalleberg, 2011). Thus, while the increased use of core-periphery models of employment relations may not directly suggest an improvement (or erosion) in aggregate levels of worker well-being, it may suggest an increase in the *dispersion* of rewards to employment within organizations.

issue of workplace transformation by documenting changes in aggregate worker well-being over time. In my dissertation I will lay the foundation for an adjudication of the optimistic and pessimistic accounts of workplace change by tracking workers' *self-assessments* of job quality over time. By pursuing an analysis of workers' self-assessments of job quality I am able to gauge whether the experience of work has, on average, improved or deteriorated over time. An improvement in workers' self-assessed job satisfaction over time would suggest trends consistent with the optimistic account, whereas erosion would suggest a narrative more consistent with that of the pessimists. In the following chapter, I will defend my selection of subjective measures as a means of assessing trends in worker well-being.

Chapter 2

Subjective Measures of Job Quality and Domains of Worker Well-Being

Why Subjective Measures of Job Quality?

As noted in the previous chapter, my dissertation focuses on workers' *self-assessments*, or subjective perceptions, of job quality. However, the use of self-assessments as a measure of worker well-being is not without controversy. In this chapter, I will address these concerns and demonstrate the utility of subjective perceptions. I will also make the important distinction between global subjective well-being (SWB) and domain-specific SWB, and show how the difference between these measurements can color the results of one's analysis. Finally, I will identify and review the literature surrounding seven domain-specific measures of worker well-being. These seven measures will serve as the backbone for the analyses of historical trends I present in later chapters. However, I will first address some of the criticisms that have been levied against subjective measures in general.

Some Common Criticisms of Subjective Measures

Measures of Subjective Perceptions Don't Actually Measure Anything

One criticism of measures of subjective perceptions is that self-assessments are incapable of capturing anything real. Proponents of this view claim subjective perceptions are unreliable and imperfect representations of peoples' underlying states and should, as such, be avoided. The idea that subjective measures fail to actually measure anything – and hence, should be abandoned in favor of more "objective" measures – is especially pervasive among economists. Indeed, most economists who study worker well-being have focused almost exclusively on wages (Green, 2006). There is, of course, some justification for using wages as a measure of overall well-being. For

example, sociologists have long known that financial resources are highly correlated with the exercise of skill and power (Bendix & Lipset, 1966). Further, when workers enter into negotiations with employers, the wage rate is often the greatest point of contention (Green, 2006). Yet, the exclusive reliance on wages as a measure of worker well-being is at odds with much of the research exploring the link between material well-being and self-reported happiness. For example, only a minority of workers claim wages are the most important indicator of job quality (Green, 2006). In addition, a new strand of cross national research claims that the positive association between material well-being and self-reported happiness diminishes at higher levels of per capita GDP (Frey & Stutzer, 2000; Diener et al, 1995). These findings suggest that income is subject to diminishing marginal returns. In other words, money, it appears, does buy happiness – but only among persons who have relatively little to begin with. An extension of this argument could be easily applied to jobs. Wages are an important aspect of job quality – but the importance of income may diminish at higher rates of pay. In any case, it is unlikely that money is the sole source of worker well-being.

A stronger rebuttal to the argument that subjective perceptions are devoid of meaning is that subjective perceptions have been repeatedly shown to exhibit strong correlations with "objective" outcomes. For example, workers who claim dissatisfaction with their jobs have been shown to be most likely to actually quit (Freeman, 1978; Clark, 2001). In addition, subjective well-being has been shown to predict things like physical health and longevity – happy people, incidentally, tend to live longer lives (Danner, Snowdon & Friesen, 2001). Further, happy people have been shown to be more social, more altruistic, more creative, and possess better conflict resolution skills than their unhappy peers (Lyubomirsky, King & Diener, 2005). When taken together, these findings suggest that measures of subjective perceptions are capturing something more than a mere making of the mind. The prior demonstration of subjective measures as accurate predictors of numerous "objective" outcomes strongly undermines the argument that such measures are of little use.

Measures of Subjective Perceptions are Nothing More than Reflections of Time and Place

Economists are by no means alone in their opposition to subjective measures. Indeed, many sociologists are also skeptical of their utility – although for different reasons. Veenhoven (2008) claims much of the opposition among sociologists is rooted in a tendency to see all social interaction as socially constructed. According to this view, people make sense of the world by interpreting, and acting upon, cultural cues and normative frameworks. The way a person feels about a particular aspect of their life is necessarily steeped in a *particular culture* and *particular set of values*. Hence the utility of subjective measures are claimed to be compromised – what constitutes the good life in one culture may be undesirable in another. The conclusion of the strict social constructionists is that subjective well-being depends on the context – thus it is the context that most warrants our attention.

However, this line of reasoning is partially undermined by evidence suggesting there are certain factors that increase human happiness (or unhappiness) regardless of cultural context. For example, people everywhere tend to express more positive appraisals of well-being when their basic needs are met (Diener & Suh, 1999). The desire for companionship also appears to exert a culturally invariant increase in subjective perceptions of well-being; married people consistently report higher average levels of subjective well-being than their single counterparts the world over (Lucas, Clark, Georgellis & Diener, 2003). Further, just as there appear to be cultural universals capable of generating happiness, there also appear to be universal factors that lead to unhappiness. For example, unemployment is consistently associated with lower appraisals of subjective well-being (Lucas, Clark, Georgellis & Diener, 2004; Diener, Nickerson, Lucas & Sandvik, 2002).

In addition to the presence of cultural universals, the argument that subjective well-being is nothing but a reflection of a particular set of cultural standards is also partially undermined by a literature in

the field of psychology. Many psychologists believe that subjective well-being can be partitioned into affective and cognitive components (Larsen & Eid, 2008; Diener, 1994; Diener, 1984). The cognitive component refers to processes of thought that are deliberate, conscious, and rational, whereas the affective component references emotional, or subconscious, processes (Kahneman, 2011) Because the social construction of reality is deemed to be a process whereby individuals actively create meaning via their interpretation of cultural cues, many psychologists consider it to fall firmly in the domain of cognition (Veenhoven, 2008). Yet there is some reason to believe that affect, rather than cognition, is more central to a person's assessment of their subjective well-being (Veenhoven, 2006; Schwarz & Strack, 1991). When viewed from this angle, subjective well-being exists, to a large extent, in the subconscious. Veenhoven (2008) goes so far to call subjective well-being "an autonomous signal from the body" (pp. 50). Hence claims that subjective well-being is merely a reflection of the context ignore the affective component of the concept. Yet it is precisely these more primal (and evolutionarily older) mental processes that that may contribute the most to our sense of well-being.

Measures of Subjective Perceptions are Pointless – In the Long-Run They Don't Matter at All

Although there is a growing recognition of the usefulness of subjective measures among psychologists, some holdouts still express doubts. Many of these doubts stem from Brickman and Campbell's influential 1971 paper introducing the idea of the "hedonic treadmill". Brickman and Campbell (1971) suggest that everyone has a baseline measure of happiness which they revert to shortly after experiencing events that generate short-term increases (or decreases) in happiness. Brickman and Campbell recognize that everyone's baseline may be different – after all, some people possess sunnier dispositions than others. However, irrespective of where one's baseline measure of happiness falls, when good (or bad) events occur people are claimed to quickly habituate to their

baseline. Consistent with this viewpoint, an event that generates happiness (e.g. the birth of a child) may lead to initial feelings of elation – but these happy moments are short-lived. After the initial increase in positive feelings, Brickman and Campbell claim people will (rather quickly) regress back to their baseline level of happiness. The implication is that subjective measures of well-being are completely dependent on individual baselines of happiness. Further, these baselines are said to be (largely) genetically determined. Hence, the use of subjective measures to assess well-being is irrelevant – once one knows the distribution of the baseline levels of happiness in a population, one has essentially described the degree to which that population is happy or unhappy.

In stark contrast to the objections raised by some sociologists, Brickman and Campbell's criticism of subjective measures is rooted in a belief that the context is basically irrelevant. Yet the problem with this notion is that much research has shown that many environmental factors do exhibit expected correlations with measures of subjective well-being. For example, Diener and Suh (2000) demonstrate that average levels of subjective well-being are higher in rich nations than in poor nations. While it is possible the citizens of nations like Zimbabwe and Haiti just happen to have lower baseline levels of happiness than the citizens of Luxembourg and Norway, a much more plausible answer appeals to the difference in material wealth between these two sets of nations. Further, environmental "shocks" (sudden changes for either the better or the worse) have been shown to exert *lasting* impacts on individuals' subjective perceptions of well-being. For example, quadriplegics report lower levels of subjective well-being long after the onset of their disability (Lucas, 2007; Dijkers, 1997). Lottery winners have been shown to express higher levels of subjective well-being for many years after striking it rich (Gardner & Oswald, 2007; Smith & Razzell, 1975). Further, the experience of divorce likely has a long-lasting negative effect on perceptions of well-being (Lucas, 2005). Finally, the notion that people's baseline levels of happiness are genetically set in stone is contradicted by recent research indicating baseline levels are capable of change over time

(Fujita & Diener, 2005). When taken together, the above evidence suggests that the environment plays a considerable role in the determination of peoples' self-assessments.

The Scale-Free Nature of Measures of Subjective Perceptions Leads to Problems of Interpretation

The scale-free nature of self-assessments is of particular concern. Subjective assessments cannot be measured with the degree of precision required for a ranking of individuals. For example, two identically situated individuals (i.e. same job, same marital status, same ethnicity, etc.) may claim to experience different levels of subjective well-being. These differences are, of course, the product of dissimilarities in personality. Because measures of subjective well-being do not allow for a ranking of individuals it becomes difficult to claim a particular set of factors leads to happiness, whereas a different set generates unhappiness. Regrettably, this is often precisely the goal of happiness research.

Fortunately, I find a way around this conundrum. Because I focus on *trends* workers' subjective well-being over time, the scale-free nature of self-assessments is less problematic. To see why, consider the following. People may vary in disposition and expectations, but it is unlikely that the societal norms defining the characteristics of a "good" (or "bad") job will undergo drastic change – at least in the short/medium term. Because the normatively defined characteristics of "good" (and "bad") jobs are likely to remain fairly stable over time, short- to medium-term *trends* in subjective assessments can be reasonably claimed to reflect real *trends* in job quality (Green, 2006). Thus while subjective measures may not allow for a ranking of individual workers' well-being, trends in *average* subjective responses over time suggest real changes in aggregate well-being. Finally, as I will document later in this chapter, identifiable trends in subjective perceptions of worker well-being have been corroborated by several survey instruments. Further, this consistency in findings across surveys suggests a number of changes in the way workers perceive the quality of their jobs.

Taken as a whole, findings such as these strongly suggest subjective measures capture information useful to the researcher. Indeed, recent work in the area of subjective perceptions has spurred the emergence of a literature on the economics of "happiness" (Frey & Stutzer, 2010; Easterlin, 1996). This literature is probably best summarized by Oswald's (1997) quote "[e]conomic things matter only in so far as they make people happier" (pp. 1815). Hence, we are reminded that analyses of well-being are only meaningful insofar as they speak to the way in which people actually interpret the circumstances of their lives. Yet, there is one final criticism of subjective measures – a criticism so potentially damning, that must be addressed in some detail.

Measures of Subjective Perceptions Produce Uninteresting Results

Perhaps the most damaging critique of subjective perceptions is that they don't tell us anything interesting. For example, global measures of job satisfaction have remained stable since at least 1972. This stability in global measures of job satisfaction (perhaps suggesting these measures are uncorrelated with changes in employment relations) has generated a fair bit of skepticism in regards to the usefulness of other subjective measures. To counter this argument, I will present a brief analysis of trends in American workers' self-assessments of global job satisfaction and satisfaction with job security.

Global Job Satisfaction

Perhaps the most straightforward way of assessing workers' opinions regarding job quality is to directly ask them to rate their overall level of job satisfaction. If such a question can be repeatedly posed to workers, it becomes possible to compare average levels of job satisfaction over time.

Fortunately, the General Social Survey (GSS) provides the means to perform such an analysis[1]. Beginning in 1972 the GSS asked the following question to survey respondents:

On the whole, how satisfied are you with the work you do--would you say you are very satisfied, moderately satisfied, a little dissatisfied, or very dissatisfied?

Figure 2.1 shows the average response in job satisfaction over the years 1972 – 2012 for individuals who claim to work, for pay, either part- or full-time[2]. Note that a score of 1 indicates a very high level of satisfaction whereas a score of 4 signifies a great deal of dissatisfaction.

Figure 2.1 suggests workers are relatively satisfied with their work. Most workers claim to be either very (48.6%) or moderately satisfied (38.6%) with their jobs. Only about 13% of total respondents express an overall sense of dissatisfaction with work. Further, as depicted in Figure 2.1, there

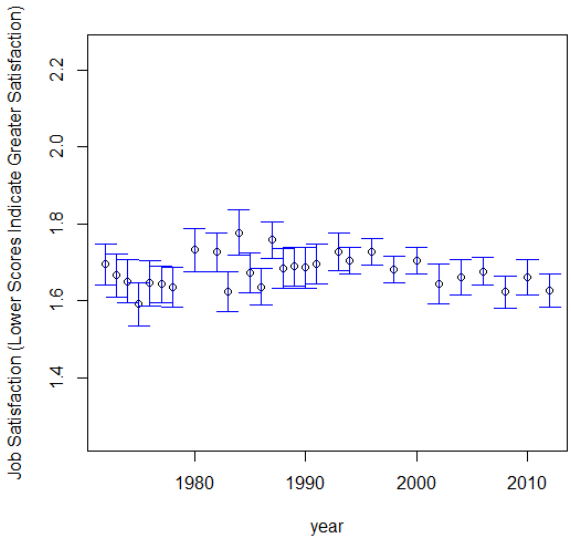

Figure 2.1 – Job Satisfaction, 1972-2006
All data are drawn from the General Social Survey (Davis, Smith and Marsden, 2009)
Vertical bars indicate 95% confidence intervals

[1] For a detailed discussion of the GSS data, see Chapter 3.
[2] The GSS allows respondents whose primary work activity is housework to submit a response to the job satisfaction variable. However, because the focus of my dissertation is on changes in the employer-employee relationship, I chose to omit any individual who is not employed in a formal market setting from my analysis.

appears to be little movement in average levels of job satisfaction over time. Indeed, it appears one of the most striking features of the global job satisfaction measure is its stability. Such a finding, at least at first glance, casts doubt upon *both* the positive and negative narratives of workplace transformation. If workers consistently rank their jobs somewhere in between "very" and "moderately" satisfying one could easily conclude the transformation of the employer-employee relationship has had *no* effect on worker sentiments of well-being. In order to test this hypothesis, I subject the job satisfaction data to a linear regression on year while controlling for the average annual unemployment rate. The results of this analysis are presented in Table 2.1. Table 2.1 suggests a zero-slope relationship between average levels of job satisfaction and year. Hence, one lesson that can be drawn from this analysis is that workers' subjective appraisals of job satisfaction have remained remarkably stable over time.

	Coefficient Estimate	Std. Error	t-value
Intercept	1.89	1.41	1.35
Year	-.0001	.0001	-.151

Table 2.1 – Linear Regression Model Results – Global Job Satisfaction

Positive coefficients suggest more optimistic assessments of job satisfaction; Negative coefficients suggest more pessimistic assessments of job satisfaction.

The apparent stability in average assessments of job satisfaction over time may lead one to think twice before pursuing a dissertation centering on trends in workers subjective perceptions of job quality. However, I argue the non-finding in regards to a trend (either positive or negative) in workers' perceptions of job satisfaction is more a function of the *specific question* asked, than indicative of real stability in worker assessments. To illustrate, I will repeat the above analysis using a question regarding job security in lieu of job satisfaction. The survey question I will use to make this comparison is as follows:

To what extent, if at all, do you worry about the possibility of losing your job?

Figure 2.2 displays the average response to the job security question for the years 1977 – 2012[3]. A score of 1 on the job security question suggests a great deal of misgiving regarding future employment, whereas a score of 4 indicates a worker that senses himself firmly ensconced in his present job.

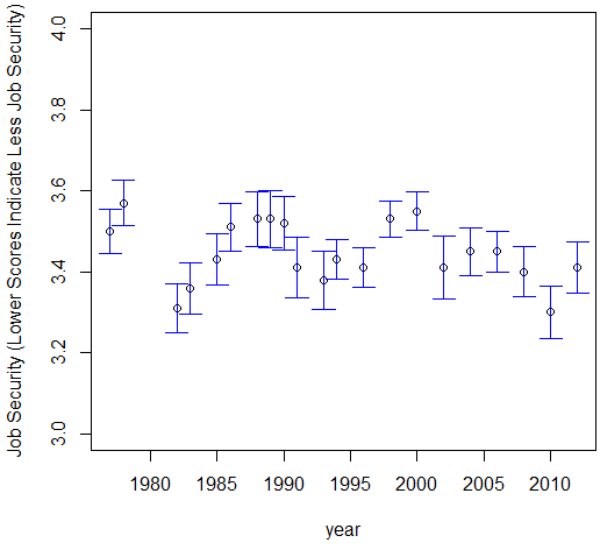

Figure 2.2 – Job Security, 1977-2006
All data are drawn from the General Social Survey (Davis, Smith and Marsden, 2009)
Vertical bars indicate 95% confidence intervals

A casual glance at Figure 2.2 suggests a narrative similar to the global job satisfaction measure – there appears to be little net movement in average assessments of job security over time. Yet, a closer inspection of Figure 2.2 reveals an interesting pattern. It appears that average perceptions of job security decline during periods of recession and improve during times of economic prosperity[4]. This finding is, of course, unsurprising. Indeed, Fullerton & Wallace (2007) have previously documented the sensitivity of the GSS job security measure to variation in unemployment. Hence,

[3] This question was only ascertained for individuals working in the paid labor force.
[4] The economy experienced recession for at least a portion of the following years: 1980, 1981, 1982, 1990, 1991, 2001, 2007, 2008, and 2009.

when I subject the yearly average of the job security measure to a linear regression on year and the average annual unemployment rate an interesting trend emerges. Table 2.2 displays the output of such a model.

	Coefficient Estimate	Std. Error	t-value
Intercept	10.35	1.87	5.53***
Year	-.003	.0009	-3.57***
Unemployment	-3.80	.590	-6.45***

Table 2.2 – Linear Regression Model Results – Job Security

Positive coefficients suggest more optimistic assessments of job satisfaction; Negative coefficients suggest more pessimistic assessments of job satisfaction.
**p < .05; **p < .01; ***p < .001(two-tailed tests)*

Table 2.2 indicates that, when unemployment is controlled for, a negative relationship between average worker assessments of job security and year emerges. This finding suggests that, net of fluctuations in the business cycle, workers' subjective appraisals of job security have declined over the period 1977-2012[5]. Thus, instead of the zero-slope relationship between global job satisfaction and year, my analysis of perceived job security suggests a trend that is more consistent with the pessimistic narrative of workplace transformation. Further, subjective reports of satisfaction with job security clearly follow objective trends in unemployment. Hence arguments that subjective perceptions are poorly correlated with objective conditions (such as those made by Brickman and Campbell, see pp. 31-32) are undermined by these findings.

Given the centrality of job security to worker well-being, it would seem a deterioration in perceived job security should be accompanied by (at least a small) decline in overall job satisfaction. Why is it that workers, over time, tend to respond more negatively to the job security question while simultaneously claiming a steady level of overall job satisfaction?

[5] Aggregate annual unemployment is not a predictor of global job satisfaction.

One plausible explanation for this dissonance invokes the notion of *social desirability bias*. It is possible that employment is so central to workers' sense of self that any negative assessment of their work "in general" may be seen as reflecting poorly on one's own identity. The job security question has the advantage of asking about a particular *domain* of well-being at work. Because this question is directed at one particular aspect of a job, it may avoid any social desirability biases that could emerge when asking workers to rank their overall satisfaction with a job – a job which is likely to be central to how many workers "see themselves".

A broader explanation regarding the logical inconsistencies in workers' responses to the global satisfaction and job security questions might focus instead on the level of generality in the questions involved. The global job satisfaction measure is very broad in scope. Overall work satisfaction, no doubt, is a very complicated function, consisting of many diverse inputs – at least for many (if not most) people. Is it reasonable to expect a person to accurately assess those aspects in which their job is providing fulfillment, as well as those in which it is generating disutility, and subsequently distill these contradictory feelings into a single survey response? A less cognitively demanding approach would eliminate the need of the respondent to sort through all the various sources of complicated feelings they attach to their jobs by breaking work down into its constituent parts. Hence, asking a worker to assess their job security independently of overall job satisfaction allows the worker to focus explicitly on job security. The worker who is approached in this fashion is free to filter out her feelings regarding her schedule, her coworkers, or her workload and instead focus directly on how she feels about the security of her job. To be clear, I am not arguing that the failure of the job satisfaction data to display a trend is the result of the inability of workers to provide useful information about the state of their well-being. However, I suspect global job satisfaction questions, at least in many cases, fail to prime respondents in a manner where they can reasonably be expected to give an honest appraisal of their situation.

An alternative way of thinking about this dynamic requires a re-examination of the actual language used in the global job satisfaction survey item. The question asks workers: "how satisfied are you with the work you do"? It is not altogether clear what this question is asking workers to assess. Are workers being asked to evaluate the quality, or quantity, of work accomplished over the course of a day? Or, are they being asked to evaluate the quality of their physical/social working environment? One's satisfaction "with the work you do" is, upon reflection, a rather confusing question. For instance, one could certainly envision the case of a worker who is proud of his accomplishments (is very satisfied with the work he does) while simultaneously hates the physical and social environment in which he works (is very dissatisfied with the work he does). Fortunately, because the problem at hand is with the survey question, and not the respondent, there appears to be an easy fix – instead of asking workers about overall worker well-being, ask questions pertinent to particular *domains* of work. I argue that because measures focusing on particular domains of worker well-being allow workers to focus on one aspect of their jobs at a time, such measures are superior to global questions of overall job satisfaction. Therefore, I have structured my dissertation to focus on worker assessments of *specific domains* of well-being at work.

Domains of Worker Well-Being

Seven measures of domain-specific worker well-being are available for analysis. These domains are as follows: *promotion* opportunities, satisfaction with *pay*, job *security*, *intrinsic rewards*, *autonomy*, *work load*, and the *pace* at which work is to be performed. Some of these domains, such as satisfaction with pay, promotion opportunities and job security are self-explanatory. However, further discussion of the meaning of the terms "autonomy" and "intrinsic rewards" is warranted. Hackman and Oldham (1976) define autonomy at work as the degree to which workers can structure and control the way in which job tasks are performed. In essence, Hackman and Oldham argue that autonomy is best

thought of as the extent to which workers are allowed to perform their tasks independently of direct supervision. Intrinsic rewards, on the other hand, are best defined as personal satisfactions derived from a sense of self-accomplishment at work. A literature in industrial psychology has found many workers benefit more from intrinsic (as opposed to extrinsic) forms of motivation (Ryan and Deci, 2000; Deci et al, 1999). The main lesson arrived at by these investigators is that workers are often better motivated to perform at a high level via job enrichment (e.g. designing work so that it is more interesting from the perspective of the worker) than via increases in compensation. In addition, I make a conceptual distinction between work load and work pace. By "work load" I am referring to the overall amount of work a person is asked to perform, whereas work pace refers to the speed at which the worker is required to engage in work related tasks. In the following pages I will review the existing literature pertaining to trends in each of the above listed domains of worker well-being.

Intrinsic Rewards

An extant literature has shown the intrinsic rewards associated with work are, at least partially, a function of the degree of skill associated with the performance of the job. Higher skilled jobs tend to provide their incumbents with greater intrinsic satisfaction (Lawler, 1994; Kalleberg, 1977; Hackman & Oldham, 1976). Given the close relationship between job skills and intrinsic rewards, an assessment of changes in skill over time might serve as a useful approximation for changes in the degree to which workers experience intrinsically rewarding work. One way to accomplish this is to examine records of the types of skills particular lines of work require. In the United States, this can be done via an analysis of the Dictionary of Occupational Titles (DOT). Howell & Wolff (1991) find that both "substantive complexity" and "interactive skills" became more prevalent, whereas "motor skills" became less prevalent, in the DOT over the period 1950 to 1990. Howell & Wolff conclude that, because substantive complexity and interactive skills are widely regarded as higher-order skills,

jobs in the United States have, in the aggregate, become more skills-laden. While one must be careful when interpreting the individual-level effects of a study relying on a jobs-level analysis, Howell and Wolff's findings are nevertheless suggestive of an increase in the intrinsic rewards enjoyed by American workers.

An alternative way to assess the extent to which skills requirements have changed over time is to examine the educational requirements of jobs. In the United States, the proportion of jobs requiring a college degree rose from 10% to 23% over the period 1969-1985, whereas the proportion of jobs for which a high school dropout would qualify shrank from 36% to 13% over the same period (Handel, 2000). Further, this finding seems to hold cross-nationally. Green (2006) finds that in Germany, between 1985 and 1997, the proportion of jobs requiring a great deal of education and/or training rose by about 5%, whereas the proportion of jobs with little to no education/training declined by a similar proportion. In Britain, the proportion of jobs requiring a degree increased from 20.2% in 1986 to 29.2% in 2001, whereas the percentage of jobs requiring no qualifications plummeted from 38.4% to 26.5% over the same period. In addition to rising educational requirements, the amount of on-the-job training required to reach competence appears to have increased in Britain as well. The proportion of jobs requiring less than three months of formal training declined from 66% in 1986 to 61.1% in 2001 (Felstead et al, 2002; Ashton et al, 1999; Gallie et al, 1998; Gallie, 1996).

In short, my review of the evidence regarding trends in job skills over time is unambiguous – in terms of both types of skills jobs require, and the educational/training credentials needed to secure these positions – much more is demanded from contemporary job incumbents. The upshot is that contemporary jobs should be more likely to confer higher levels of intrinsic rewards associated with

performing high-skill tasks. Indeed, a finding consistent with this logic would be supportive of the optimistic account of workplace transformation.

Work Intensification – Work Pace and Work Load

In the United States, evidence regarding trends in the intensity of work is scant. There are a few case studies suggesting an intensification of work over time – at least in selected industries/occupations (Bernhardt et al, 2003; Taplin, 1995). However, in Europe, the evidence is unequivocal – contemporary workers appear to be working much harder than those in the past. In Britain, findings from the Social Change and Economic Life Initiative Survey (SCELI) show more workers report having to work both faster, and harder, in 1986 than in 1981. The Workplace Industrial Relations Survey of 1990 (WIRS90) corroborates these findings – workers in the late 80s claim they were working harder ("more effort") than were workers in the early 80s. Finally, results from The Employment in Britain (EIB) survey show that workers over the period 1987-1992 claim to be working harder and under greater stress (Green, 2006). The fact that all three surveys are consistent suggests a real increase in work intensification in Britain. Furthermore, this intensification seems to have continued unabated into the 1990s. The proportion of workers who "strongly agree" they work under a great deal of tension rose from 15.1% in 1992 to 20.9% in 2001. The percentage of workers who claim to work at a very high speed "all or almost all of the time" rose from 17.3% in 1992 to 25.6% in 2001. The proportion of workers strongly agreeing with the statement "my job requires me to work very hard" increased from 31.7% in 1992 to 38.3% in 2001. The percentage of workers claiming to put "a lot" of effort beyond what is required increased from 68.8% in 1992 to 70.3% in 2001. Finally, the proportion of workers "strongly agreeing" that they work under a "great deal of tension" increased from 15% to 21% over the period 1992 to 2001 (Green, 2006; Burchell et al, 1999; Edwards et al, 1998; Knights and McCabe, 1998). Note that these data are drawn from *four*

separate sources (Employment in Britain, the 1997, and 2001, Skills Surveys, and Working in Britain). Given the consistency of responses across surveys it is difficult to argue that workers' perceptions of work intensification have not experienced a deterioration relative to earlier periods.

Nor are these findings restricted to Britain. The European Surveys on Working Conditions find the trend of work intensification holds for *most* EU nations. Workers in Belgium, France, Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Spain and Sweden all claim to be working faster and on tighter deadlines (Green, 2006). These findings also appear to extend to Australia. The Workplace Bargaining Survey suggests 61.5% of Australian workers claim to be putting in greater effort in 1994 than the previous year (Green, 2006).

Given the uniformity of the evidence (across surveys and across nations) it is somewhat surprising that the topic of work intensification has not received greater attention in the United States. However, the evidence in Europe is unambiguous – workers claim to be working faster, harder and under greater stress. I suspect these trends will apply to the United States as well.

Autonomy

Very little prior work documents trends in workers' perceptions of autonomy in the United States. However, the evidence out of Europe suggests, contrary to the optimistic account, contemporary workers experience *less* autonomy than their historical peers. The proportion of British workers claiming the ability to exert "a great deal" of influence over how hard they are required to work, what tasks are performed, how tasks are performed, and appropriate standards of work quality each declined over the period 1992 – 2001. For example, 42% of British workers claimed to have a "great deal" of influence over which tasks they performed in 1992. However, by 2001, the proportion of workers claiming such latitude over the content of their jobs had declined to 30% (Green, 2006). Furthermore, Green (2006) shows this decline in autonomy appears to be particularly strong among

professional classes of workers. Evidence suggesting a decline in autonomy is also present in many other European nations. Using a task discretion score constructed from survey items querying workers' ability to choose: 1) the order in which tasks are to be completed, 2) the methods to complete the work, and 3) the speed at which they work, Green (2006) provides evidence suggesting autonomy has declined over the period 1996-2000 in Belgium, Denmark, Ireland, Italy, and Portugal.

However, the evidence regarding European trends in autonomy is more ambiguous than trends in work intensification. Indeed, there is some evidence suggesting contemporary workers in Austria, Germany, and Finland experience greater freedom at work than was once the case (Green, 2006). Given this equivocation the expected trajectory of trends in autonomy among American workers is not altogether clear.

Pay

Unlike some of the preceding concepts, a discussion of trends in earnings in the United States is well established. The literature pertaining to earnings growth in the United States over the past 40 years is unequivocal – median household income in the United States has experienced a prolonged stagnation. Goldin and Katz (2007) claims that while median wages grew by 2.5%-3% per year during the 1950s and 1960s, median earnings experienced *no* further net growth from about 1970 to the latter half of the 1990s. While the strong economic expansion that occurred during the late 1990s exerted moderate upward pressure on median wages, the familiar pattern of wage stagnation appears to have re-emerged in recent years. Between 2000 and 2007, the median income for working age households increased by an anemic .1% per annum (Mishel et al, 2012).

Equally clear, is an unambiguous trend of strong earnings growth among individuals at the top of the income distribution (Piketty & Saez, 2003). DeNavas-Walt et al (2012) estimate that in 2011, the

top 20% of earners took home 50.3% of aggregate national income. In contrast, the bottom quintile claimed only about 3.3% of all income earned in the United States. However, DeNavas et al's estimates only take into account income earned from employment. This is problematic because top earners tend to generate a substantial portion of their income from earnings on investments. An earlier study, taking into account capital gains, estimates the proportion of earnings accruing to the *top 10%* of earners at 50%. Furthermore, about 20% of total aggregate income is estimated to be captured by the top 1% of earners (Atkinson et al, 2009). Consistent with Atkinson et al, Stiglitz (2012) estimates the fraction of income taken by the top 1% has doubled since 1980 – and the fraction accruing to the top .1% has nearly tripled.

Further, Mishel et al (2012) claim that the stagnation in median earnings is occurring despite overall increases in productivity. Over the period 1973-2011, the United States experienced an 80.4% increase in productivity. However, median hourly compensation increased by only 10.7% – much of this increase concentrated in the latter half of the 1990s. Yet, even this increase has the potential to be misleading. Trends in male, and female, earnings show opposing trajectories. Women's earnings have increased by about a third relative to 1973, whereas median earnings among men have undergone *zero* growth over the period (Mishel et al, 2012). In addition, the combination of increasing productivity and stagnating wages appears to be unique to the United States. Europeans have enhanced their productive capacities at roughly the same pace as the United States – however, wages in Europe have tended to increase alongside gains in productivity (Green, 2006).

Perhaps due to an abundance of high quality data on earnings, little work has explored workers' self-assessments of the extent to which their incomes match their needs. However, a body of work examining how persons' perceptions of well-being are influenced by *relative* earnings is a notable exception. For example, Alesina et al (2004) claim that both Americans and Europeans are less likely

to report feelings of subjective happiness when incomes are distributed unequally. Graham and Felton (2006) find a similar relationship between happiness and inequality in Latin America. Oishi et al (2011) use the GSS to uncover a negative relationship between self-assessed happiness and income inequality in the United States over the period 1972 – 2008. Years in which incomes were distributed more equally were positively associated with higher average assessments of happiness. Furthermore, Oishi et al (2011) are careful to specify a mechanism whereby income inequality generates lower perceptions of happiness. They claim inequality generates declines in perceived fairness and trust, which, in turn, drive self-assessments of global happiness downward.

The relationship between subjective happiness and inequality may also be moderated by perceptions of mobility. Persons in societies which are believed to be characterized by high levels social mobility may be less likely to perceive inequality as disadvantageous. This may explain why Alesina et al (2004) show a stronger relationship between inequality and unhappiness in Europe than in the United States. Following this line of logic, Oishi et al's (2011) findings of diminishing levels of happiness in the United States may suggest contemporary Americans perceive less potential for mobility than their historical counterparts. This would be consistent with recent research suggesting that social mobility in the United States has, in fact, declined over time (Corak, 2013; Krueger, 2012)

In sum, the available evidence strongly suggests the earnings distribution in United States is currently characterized by wide dispersion. Furthermore, a relatively new line of research has drawn a link between inequality and declining assessments of subjective well-being. Hence, I suspect contemporary workers, will be more likely to express dissatisfaction with earnings compared to their historical peers.

Job Security

The literature pertaining to trends in job security tends to fall into one of two general camps. The majority position takes an *ex post facto* approach. For example, one can assess the stability of jobs by examining trends in actual job separations and/or tenure duration. Thus, researchers in this vein analyze job security by measuring the extent to which employer-employee relationship experience dissolution over some period of interest. There is, in fact, fairly strong evidence that job separations (overall and involuntary) have increased in the United States over the 1980s and 1990s (Polsky, 1999; Vallletta, 1999; Bernhardt et al, 1999). However, there is little evidence that overall job tenure has changed all that much. Yet, the aggregate trends in tenure may be misleading because they mask the effects of gender on length of employment. In the United States (as in most other developed nations), men's tenure has experienced a decline whereas women's tenure has increased (Jaeger & Stevens, 1999; Burgess & Rees, 1996; Gregg et al, 1999; Farber, 1995; Neumark et al, 1999; Auer & Cazes, 2000; Auer & Cazes, 2003).

On the other hand, a minority of researchers have chosen to take an *a priori* approach to studying job security. Researchers in this vein measure job security by asking the presently employed to gauge their subjective level of future job security. Although the *ex post facto* approach has received the most scholarly attention, the subjective approach has generated some interesting findings. For example, Schmidt (1999), in an analysis of General Social Survey (GSS) data over the years 1977-1996, concluded American workers have become more pessimistic in regards to issues of job security. She also claimed that contemporary workers are more likely to express fears of "costly" job loss – the loss of a job accompanied by a perceived inability to find a replacement of comparable quality – relative to past cohorts. Such findings are not unique to the United States – Nickell et al (2002) show a similar increase in "costly" job loss in Britain. However, Schmidt (1999) finds workers' self-assessments of the likelihood of job loss, and "costly" job loss, were higher in the 1993-1996 period

than the economically similar periods of the late 70s and 80s. Further, Schmidt shows that workers in the recession of the early 1990s were as concerned with job loss, and costly job loss, as were workers in the much more severe recession of the early 1980s.

Fullerton and Wallace's (2007) paper extended on Schmidt's findings by directly grappling with the determinants of changes in workers' self-assessments of job security. Using GSS data from 1977 to 2002, Fullerton & Wallace found no relationship between year and worker self-assessments of job security. However, they subsequently find the relationship between year and perceived job security changes after controlling for unemployment. When unemployment is accounted for, a strong negative relationship between year and perceived job security emerges. This finding is, of course, very similar to the results presented in Figure 2.2 (and Table 2.2) earlier in this chapter.

In addition to the unemployment rate, Fullerton & Wallace uncover a series of relationships between perceived job insecurity and several other macro-level measures of labor market conditions. They find job security is negatively related to increases in the average real weekly earnings of production workers, as well as increases in union density. Finally, Fullerton & Wallace show a negative association between job security and income inequality, as measured by the Gini coefficient.

The evidence pertaining to job security in the United States is fairly consistent with the pessimistic account of workplace transformation. It appears the contemporary United States is characterized by a greater number job separations – particularly involuntary job separations – than was once the case. Furthermore, prior research suggests that contemporary workers, net of controls for macro-economic conditions, possess greater misgivings with respect to the security of future employment.

Promotion Opportunities

Very little work has directly assessed trends in promotion opportunities. However, a literature has emerged documenting a decline in internal labor markets within firms. In the past, many large firms were structured hierarchically. It was not uncommon for large American firms to have dozens of intermediaries between front-line supervisors and top executives (Useem & Cappelli, 1997). These "middle managers" were responsible for a wide range of administrative and managerial tasks. In addition, these intermediary positions also provided a pathway for upward mobility within the organization. Further, such promotion ladders were not restricted to the managerial ranks. Workers with little education could secure entry-level employment at one of these large firms and subsequently work their way up the organizational chart – potentially reaching supervisory, or even managerial, ranks. However, in recent years much evidence has emerged claiming these within-firm career ladders have been dramatically reduced in scope (Useem & Cappelli, 1997).

Instead of an explicitly laid out hierarchy, Cappelli (1995) argues contemporary employers are more likely to delegate authority to "ground level" workers. An example of this trend is a movement towards employment relations that are more "project" oriented – instead of vesting a manager with supervisory responsibilities over a group of employees, workers themselves are assigned a task and expected to complete it with little supervision. From the perspective of management, this devolution of power to the front lines is beneficial because it works to circumvent any delays associated with the navigation of (often complex) forms of corporate bureaucracy.

Perhaps the most visible organizational manifestation of the devolution of authority within large employers is the emergence of the self-managed work team. The late 1980s and early 1990s witnessed a large rise in the proportion of employers using this form of organization. Lawler et al (1992) claim that between 1987 and 1990 the percentage of large American firms using self-managed

work teams increased from 28% to 47%. Osterman (1994) corroborates these findings – in 1994, 54.5% of employers claimed to rely on self-managed teams. Further, 40.5% of employers using self-managed teams stated they relied on them for the majority of all tasks performed.

The devolution of responsibility from the managerial to the front-line ranks has the potential to reduce an employer's need for supervisory employees. Cappelli (1995) argues this trend is, at least partially, responsible for a breakdown in the old-style promotion ladders described above. As decision making power becomes increasing vested in the hands of front-line workers, there is less need for multiple layers of hierarchy – and hence fewer opportunities for upward mobility within the firm. This line of reasoning receives some support via an analysis of the trajectories in the total number of supervisory and non-supervisory positions. Among white-collar workers, non-supervisory jobs grew by 22% over the period 1986-1992 while supervisory, managerial and executive jobs each shrank by 6% (Useem & Cappelli, 1997).

The State of Worker Well-being in the United States – A Domain Centered Approach

My dissertation is about Americans' perceptions of well-being at work, and how these perceptions have changed over the period 1970 - 2006. Two competing narratives paint opposing portraits of workplace change in the United States over the past forty years. On the one hand, there are those who claim contemporary workers are better-off than their historical peers. The optimists point to rises in educational- and skills attainment – as well as increases in the number of human capital intensive jobs – as evidence of the emergence of a workplace that is more employee-friendly. In addition, the optimistic account hails the advent of participatory forms of management, and the implementation of high performance work systems, as organizational forms emphasizing worker inclusion – and minimizing the extent to which work is defined by dull, or monotonous, drudgery.

On the other hand, there are those claiming contemporary workers are, on the balance, worse-off than their historical peers. The pessimists suggest rises in the number of workers employed on a contingent basis, the frequency of downsizing events, and the flattening of organizational hierarchies are indicative of an employment system that, from the perspective of the average worker, has gone awry. Furthermore, the pessimists claim that the contemporary employment relationship is characterized by greater inequality and an imbalance of power between employer and employee. The pessimistic narrative points to declining unionization and the emergence of a shareholder value ethos as evidence of this claim.

Domain of Worker Well-Being	Expected Trend over Time
Intrinsic Rewards	Exhibits Improvement
Work Load	Exhibits Deterioration
Work Pace	Exhibits Deterioration
Autonomy	Ambiguous
Pay	Exhibits Deterioration
Job Security	Exhibits Deterioration
Promotion	Exhibits Deterioration

Table 2.3: Trends in Worker Well-Being Over Time – The Current State of the Literature

A review of the literature provides partial support for both the optimistic and pessimistic narratives. Table 2.3 summarizes the main findings of this literature. While a great deal of scholarship has explored changes in job quality over time, relatively little prior work has approached the topic using subjective perceptions. Hence, by tracking workers' self-assessments of job quality I am able to provide an alternative account of whether workers' experiences of work have improved or deteriorated over time. In the following chapter, I detail the data I use to conduct my analysis and describe my measures of subjective well-being. In addition, I will also describe a methodological approach for dealing with inconsistently worded survey items across time.

Chapter 3

Data, Measurement, and Measurement Equivalency

The data for my dissertation are drawn from three sources covering the years between 1970 and 2006. I use the 1970 wave of the Survey of Working Conditions (SWC), the 1973 & 1977 waves of the Quality of Employment Survey (QES), and the 1989, 1998 & 2006 waves of the General Social Survey (GSS). Since 1972 the GSS has included an annual measure of global job satisfaction. However, as I discuss in Chapter 2, I am primarily interested in analyzing domain-specific measures of worker well-being. Such domain-specific measures of the quality of work life are only administered periodically. For example, in 1989, 1998, and 2006 the GSS administered a Work Orientations Module to a randomly selected subset of the overall sample. It is from these modules that I draw my measures of worker well-being for the latter three years of my analysis. Further, note that the SWC/QES surveys were *only* administered in 1970, 1973, and 1977. These six waves of data (1970, 1973, 1977, 1989, 1998, and 2006) represent the *only* available sources of information on American workers subjective perceptions on multiple dimensions of their jobs[1]. Unfortunately, similar data on workers' self-assessments of job quality do not exist for most of the 1980s, nor prior to 1970. Each of these data sources are, however, nationally representative probability samples of Americans 18 years of age and older (Quinn, Seashore & Mangione, 1975; Quinn & Staines, 1984; Davis, Smith & Marsden, 2009).

Unlike other researchers having studied workers' subjective perceptions of job quality, I chose not to place additional restrictions on inclusion into the sample. For example, Fullerton and Wallace (2007), in their study of trends in perceived job security, exclude self-employed workers on the

[1] While the six waves of data I use in my dissertation are the only sources of information on *multiple* dimensions of worker well-being, the GSS has collected a measure of job security annually since 1977.

grounds that the self-employed are largely responsible for their own security. However, Hipple (2010) reports that for the years 1967-2009, between 6.4% and 7.5% of all non-agricultural workers were self-employed. In other words, the self-employed comprise a non-trivial percentage of the labor force. Hence the exclusion of self-employed workers would require me to throw away information pertaining to a sizable subset of workers. Further, just as there are many types of self-employment, I expect there to be sufficient variation in the responses of self-employed workers on the subjective assessments of their jobs. For example, self-employment in the United States can mean anything from owning a multi-million dollar business, to completing micro-tasks, at a wage rate of a few pennies per job, for Amazon.com[2]. Likewise, I chose not exclude part-time workers on the grounds that people may work part-time for many different reasons. For example, a worker who is making ends meet by cobbling together several part-time jobs is likely to be very different from a financially secure mother who works a few days a week at an after-school program attended by her son. In any case, I suspect both self-employed and part-time workers likely express a wide range of opinions regarding the quality of their jobs. Hence, I do not suspect their inclusion into my sample will result in any systematic bias. Pooling all years, my full sample consists of 6,510 individuals. Table 3.1 shows the distribution of individuals across survey years.

	1970	1973	1977	1989	1998	2006
Sample Size	1,427	1,205	1,235	834	806	1,003

Table 3.1 – Sample Size by Year
Data from 1970 is drawn from the Survey of Working Conditions (Quinn, Seashore & Mangione, 1975), data from 1973 & 1977 are drawn from the Quality of Employment Survey (Quinn & Stains, 1984), data from 1989, 1998 & 2006 are drawn from the General Social Survey (Davis, Smith and Marsden, 2005)

As noted in the previous chapter, seven measures of perceived job quality were available for tracking changes in workers' subjective assessments over time. These measures capture subjective

[2] See, for example, Folbre (2013) for a peek into the sweatshop like nature of self-employment as an "Amazon mechanical Turk"

assessments of worker *pay, promotion opportunities, job security, work intensification* (work load and work pace)*, autonomy and intrinsic rewards*. The survey items used to generate these measurements are given in Appendix 3.1 (pp. 75-76).

Note the questions used in 1970, 1973 and 1977 are identical, but differ from the questions used in 1989, 1998 and 2006, which are also identical. In other words, I have two "groups" of questions. The first group consists of the years 1970, 1973 and 1977 (the SWC/QES group). The second group includes 1989, 1998 and 2006 (the GSS group). The survey questions I use *are consistent within groups* but *differ between groups*. Further, the number of answer categories from which workers were permitted to select differs between groups. In the 1970-1977 group, workers were allowed four categorical choices when making their assessments of job quality. However, in the 1989-2006 group, workers were allowed five choices.

In order to foster consistency in response alternatives across the SWC/QES and GSS measures I coded each variable on a scale of one to four. To accomplish this, I collapsed two adjacent categories for data drawn from the latter three years (1989, 1998, and 2006). I will address my justification for collapsing these categories below but, note that for all variables, a score of 1 indicates a worker selected the "most negative" possible response to a survey item and a score of 4 indicates a respondent selected the "most positive" choice available. For example, a person who "strongly agreed" their chances for promotion/advancement were good and also claimed to "always" come home from work exhausted would be coded as a 4 on the promotion opportunities variable and a 1 on the work load variable.

Measurement Equivalency

Indistinguishability of Ordinal Categories in the GSS Data

I will now turn to an explanation of how I resolved the inconsistency in the number of ordinal categories comprising my measures of job quality across years. Recall that respondents were allowed four categorical choices in the 1970-1977 period, and five choices in the 1989-2006 period. Following Fullerton and Wallace (2007), I chose to collapse two adjacent responses for the GSS (1989-2006) items into a single category. Fullerton and Wallace found the two most negative responses to the GSS job security measure were statistically indistinguishable for the years 1977-2002, and hence could be combined without the loss of information (Fullerton and Wallace, 2007, pp. 208). Further, Long and Freese (2006, pp. 203) claim that the merging of two, or more, statistically indistinguishable outcome categories results in more efficient model estimates. Thus while almost universally ignored, the integrity of the response categories to a survey question is a consequential issue for survey analysts. If we wish to improve the efficiency of our model estimates for ordinal dependent variables, we should always first test to see if the outcome categories are sufficiently different so as to warrant making a distinction between responses.

Fullerton and Wallace based their decision to collapse the two most "negative" categories of their job security measure by assessing the "indistinguishability" of ordinal categories via the use of a Stereotype Logit Model (SLM) framework. The SLM allows the coefficients relating independent variables to dependent variables to vary across outcome categories by a common factor φ. If φ is

sufficiently similar for two outcome categories, one can claim the model does not distinguish between the categories (Long & Freese, 2006, pp. 286)[3].

Following Fullerton & Wallace, I test for the indistinguishability of ordinal categories for each of my seven measures of subjective well-being. I first identify two Stereotype Logit Models regressing workers' subjective assessments of well-being at work on age, sex, race, educational attainment and occupational category. The first model allows the common factor (φ) to vary across outcome categories. The second model places an equality constraint on the common factor for two adjacent categories of each outcome variable. The test statistic for this type of analysis is the likelihood-ratio of the two models, which is distributed as X^2 with one degree of freedom. Insignificant test statistics suggest measurement equivalency (Long & Freese, 2006). Table 3.2 reports the results of this analysis.

	Pay	Promotion	Security	Int. Rewards	Autonomy	Work Load	Work Pace
LR X^2 (1df)	.02	.00	.30	2.82	.43	11.92	31.60
Prob > X^2	.892	.961	.585	.093	.511	.006**	.000***

Table 3.2 – Likelihood Ratio Tests for Indistinguishability of adjacent categories in the GSS Data
Insignificant values of X^2 suggest two adjacent categories are statistically indistinguishable.
**p < .05; **p < .01; ***p < .001(two-tailed tests)*

[3] Long and Freese (2006) show that in the Stereotype Logit Model, the odds of attaining outcome category (j) relative to category (k), conditioned on independent variable (x_k) can be expressed as:

$$\exp\{(\varphi_j - \varphi_k)\beta_k\} \qquad (1)$$

In the event the SLM does not detect a distinction between category (j) and category (k) – in other words category (j) and category (k) are indistinguishable – the phi coefficients for both categories will be estimated as identical ($\varphi_j = \varphi_k$). Hence equation (1) reduces to

$$\exp\{0\beta_k\} = 1 \qquad (2)$$

Equation (2) suggests the effect of β_k is constant for both outcome categories (j) and (k). Hence when $\varphi_j = \varphi_k$ the model does not make a distinction between category (j) and category (k), thus the two categories can be safely collapsed without loss of information. For a more detailed explanation of the stereotype logit model see Chapter 4, pp. 102-104.

The results presented in Table 3.2 suggest that, for five of my seven measures of worker well-being, at least one pair of adjacent categorical responses are statistically indistinguishable. This suggests these adjacent categories can be safely combined without loss of information. However, the categories that are combined in this analysis vary across measures. My results suggest the two "most positive" categories can be safely collapsed for my measures of pay and promotion opportunities. However, my analysis suggests it is the two "most negative" categories that should be combined for my measures of job security, autonomy and intrinsic rewards. Note that no adjacent categorical responses can be designated as statistically indistinguishable for my measures of work load and work pace. For the sake of consistency across survey "groups" (SWC/QES & GSS), I chose to collapse the two "most negative" categories for these two measures in the GSS data. Findings applying to these two variables should be interpreted with appropriate caution.[4]

A Multiple-Group Structural Equations Test of Measurement Equivalency

Another problem with the data that I had to solve – one arguably more vexing than the indistinguishability issue addressed above – is the difference in the wording of survey questions used to generate my measures for the 1970-1977 and 1989-2006 groups. Further, the degree to which the survey questions are dissimilar across "eras" differs for each measure of worker well-being. For example, some measures are constructed with survey questions that are quite similar. For instance, accord-era workers were asked to evaluate intrinsic rewards by assessing whether their "work is interesting", whereas flexible production workers are asked to assess whether their "job is interesting. On the other hand, some across-"era" survey questions are quite dissimilar. For example,

[4] In a supplementary analysis I removed all workers having expressed "indifferent" responses in the GSS data. In other words, I achieved a four-category ordinal scale in the GSS data by removing all respondents who selected "neither agree nor disagree". My findings in this supplementary analysis are nearly identical to those presented in later chapters – albeit with larger standard errors reflecting the reduced sample size of this model specification.

accord-era workers were asked to evaluate their "promotion" opportunities, whereas flexible production workers were asked to assess their "advancement" prospects (see Appendix 3.1, pp. 75-76, for a listing of each survey question).

One way of dealing with the problem of inconsistently worded survey questions is to formally test for measurement equivalency. To accomplish this I must establish 1) whether my observed measures can be represented as latent variables and, if so, 2) whether the latent variables across years are represented by a similar underlying structure. In order to address the first issue, I use exploratory factor analysis (EFA). Exploratory factor analysis is a commonly used tool to identify latent variables that can provide the framework for causal analysis. EFA extracts latent factors from a correlation matrix and subsequently transforms them to obtain factor loadings (Loehlin, 2004). If, in my EFA, each observed variable consistently loads on the same factor for each year included in my analysis, I have reason to believe my measures are reliably capturing the same concepts over time.

I begin by restricting my analysis to the years 1998 and 2006. Both waves of data were drawn from the GSS. Furthermore, the language used in the survey items for these two years is *identical*. Because these data are drawn from the same study (GSS), and use identically worded questions to assess workers' subjective perceptions, I expect a finding of measurement equivalency to be most likely in these years. Indeed, if I am unable to conclude my measures of perceived job quality are equivalent across these two waves of data, it seems unlikely I will be able to establish the equivalency of measures elsewhere.

Table 3.3 reports the results from my initial EFA. My findings indicate the factor loadings relating observed variables to latent factors are generally consistent for the years 1998 and 2006. Self-assessments of work load and work pace consistently load on Factor 1. Subjective appraisals of pay, promotion, and security load on Factor 2. Finally, measures of intrinsic rewards and work autonomy

load primarily on Factor 3. Additional exploratory factor analyses indicate the factor loadings relating observed to latent variables are consistent for the 1970, 1973, 1977 and 1989 data as well. Because the factor loadings are substantively similar, I have reason to believe my measures of perceived job quality are consistently estimating similar concepts across years. Furthermore, my findings are consistent with a number of other three-category models of job quality. Indeed, the partition of job quality variables into categories of material rewards, intrinsic rewards, and work loads has been used in several previously published studies (Handel, 2005; Rosenthal, 1989; Kalleberg, 1977).

Having established my measures of subjective job quality are well represented by a generic factor structure, I can assess the equivalency of my measures across these two years. Mullen (1995) recommends using multiple-group structural equation modeling (SEM) as a means to this end.

	1998			2006		
Question	**Factor 1**	**Factor 2**	**Factor 3**	**Factor 1**	**Factor 2**	**Factor 3**
Pay	-.03	.82	-.05	.00	.71	-.07
Promotion	.04	.51	.19	-.05	.47	.20
Security	.11	.41	.14	.09	.41	.18
Int.Rewards	-.01	.00	1.0	-.04	.00	.81
Autonomy	.07	.15	.36	.16	.03	.50
Work Pace	.88	-.02	-.01	.69	-.03	-.01
Work Load	.61	.04	.00	.67	.03	.00

Table 3.3 – Exploratory Factor Analysis Factor Loadings for Seven Job Assessment Questions from the 1998 and 2006 General Social Surveys

The method of multiple-group SEM I use is a latent factor analysis, a class of methods relating observed variables to unobserved (unobservable) latent factors. Here, it is important to make a distinction between two easily confused ideas. A generic factor structure across years, is a prerequisite of, but does not necessarily imply measurement equivalency (Vandenberg & Lance,

2000). A generic factor structure across years implies that observed variables consistently load on the same latent constructs irrespective of which year is being analyzed. However, measurement equivalency, as assessed by multiple-group SEM requires the *coefficients* relating each observed measure to its respective latent construct to be statistically indistinguishable across years (Vandenberg & Lance, 2000).

To illustrate, Figure 3.1 displays the generic factor structure for the years 1998 and 2006. While the EFA suggests both the 1998 and 2006 data are represented by a common factor structure, measurement equivalency is not yet established. In order to establish the equivalency of the 1998 and 2006 measures I must assess whether the path coefficients (λs) relating the observed varaibles to the latent factors are equivalent for both years. In other words, is: $\lambda_{11(1998)} = \lambda_{11(2006)}$, $\lambda_{21(1998)} = \lambda_{21(2006)}$,…, $\lambda_{73(1998)} = \lambda_{73(2006)}$? If the lambda coefficient estimates of the 1998 and 2006 data are statistically indistinguishable, sufficient evidence exists to conclude the observed measures are indeed equivalent (Bollen, 1989; Joreskog & Sorbom, 1989).

Table 3.4 summarizes the results of a series of multiple group SEMs assessing the equivalence of lambda coefficients across years. Note that two separate assessments are given. At the top of Table 3.4 I report the Root Mean Square Errors of Approximation (RMSEA). The RMSEA is a global measure of goodness of fit that is relatively insensitive to sample size and explicitly adjusts for model complexity (Loehlin, 2004). Note the RMSEAs provided in Table 3.4 are in reference to models in which I constrain the lambda coefficients to be equal. In other words, I am imposing the condition of measurement equivalency to the data in this model. Browne & Cudeck (1993) claim RMSEAs of less than .05 suggest a good fit, and RMSEAs between .05 and .08 suggest a reasonable fit, of the data to the model.

All 15 RMSEAs fall below Browne & Cudeck's threshold of unsatisfactory fit (.08). This suggests the models constraining the path coefficients to be equal across pairwise combinations of years provide a reasonably good fit to the data. Furthermore, this holds for combinations of years spanning the (1970-1977 / 1989-2006) "group" division. Thus the RMSEAs produced by constraining the path coefficients of models to be equal across pairwise combinations of years suggest an equivalence of measurement – irrespective of which survey instrument was used to measure worker perceptions.

Table 3.4 also reports the results of Chi-Square difference tests (in parentheses). A Chi-Square difference test can be used to assess the goodness of fit for nested models. The null hypothesis for the Chi-Square difference test is lambda coefficient invariance. I first find the Chi Square statistic for an initial model by constraining the lambda coefficients to be equal across years. I subsequently find the Chi Square statistic for the alternative model by constraining the paths to resemble the common factor structure depicted in Figure 3.1, but allowing the lambda coefficients to vary across years. Because the alternative model can be obtained from the null by allowing the lambdas to be freely estimated across groups, the null and alternative models are nested. A Chi-Square difference test assesses the statistical significance of the additional constraints imposed by the null model. The test statistic for the Chi-Square difference test is: $(X^2_{Null} - X^2_{Alternative})$, and the degrees of freedom for the test is simply the difference in the degrees of freedom for the null and alternative models.

The results of the Chi-Square difference tests, at first glance, are somewhat less conclusive. While many of the test statistics fail to reject the null hypothesis of lambda equivalence at the .05 level, a failure to reject the null is not universally obtained. However, it is important to note the X^2 statistic is sensitive to sample size. Because my sample sizes for each year are large (minimum n = 806) it is

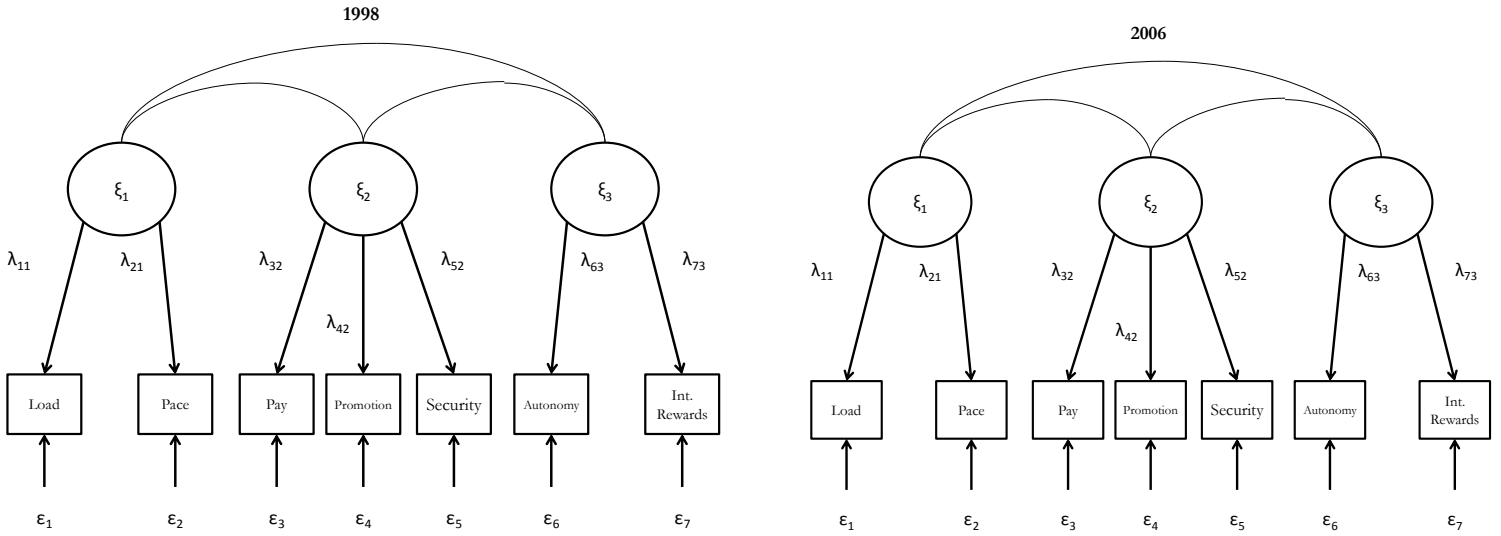

Figure 3.1 – Multiple Group SEM to Establish Measurement Equivalency

	1970	1973	1977	1989	1998
1973	.047 (11.65*)				
1977	.042 (5.89)	.045 (4.34)			
1989	.044 (19.86**)	.057 40.34**	.049 (28.79**)		
1998	.047 (23.89**)	.058 40.36**	.054 (39.01**)	.037 (8.80)	
2006	.043 (2.29)	.051 12.33**	.045 (9.67*)	.044 (11.09*)	.044 (8.41)

Table 3.4 – Root Mean Square Errors of Approximation and Chi-Square Difference Tests for Multiple Group Structural Equation Models (X^2 tests in parentheses)

All X^2 Test Statistics are Evaluated at 4 Degrees of Freedom

** indicates significance at the .05 level, ** indicates significance at the .01 level*

A Non-Significant X^2 Difference Test Statistic Suggests Measurement Equivalency

likely that the X^2 tests rejecting the null hypothesis are detecting trivial differences in the lambda coefficients. Indeed, given my large sample sizes it is arguably *more* surprising that five of the X^2 tests fail to reject the null. Hence there is reason to believe my measures of perceived job quality are sufficiently similar to warrant comparison over time.

Conclusion

In this chapter, I have identified the data sources and measures to be used in the analytical portion of my dissertation. However, the differences across survey instruments posed two major problems to be overcome. First, because the measures I select differ in terms of response categories, I had to establish the indistinguishability of two adjacent categories for each variable drawn from the 1989, 1998, and 2006 surveys. Next, because the measures I select are not identically worded across the same "group" (1970-1977 / 1989-2006) division, it was necessary to establish measurement equivalency prior to subjecting the data to further analysis. I used a two-step process to establish equivalency. First, I relied on an exploratory factor analysis to determine whether the data could be represented by a generic factor structure. Second, I used a multiple-group SEM analysis to assess the extent to which factor loadings were characterized by invariance. My exploratory factor analysis suggests that, for each year, my measures of worker well-being fit a generic three factor structure. Further, my multiple-group structural equation model suggests the path coefficients associated with the generic three factor model are, indeed, invariant across years. The invariance of path coefficients across years suggests each of my measures of worker well-being is tapping into an underlying latent concept that is consistent across all six waves of data. Thus in addition to establishing the equivalency of my measures across waves, this chapter also provides a blueprint for appropriately dealing with *any* survey items characterized by inconsistent wording across years.

In the following chapter I will provide an analytic strategy for assessing trends in self-assessments of the *material* rewards accruing to employment. Chapter 4, will thus assess whether trends in worker satisfaction with *pay*, *promotion opportunities*, and *job security* better reflect the optimistic, or the pessimistic account of workplace change.

Appendix 3.1: Verbatim Survey Questions Used to Construct My Measures of Worker Well-Being

Satisfaction with Pay:

To what extent does the statement "*The Pay is Good*" apply to your own job? Possible responses are "Very True", "True", "Somewhat True", and "Not at All True" (Asked in 1969/1970, 1973, and 1977).

How much do you agree or disagree the statement "*My Income is High*" applies to your main job? Responses fell into five categories ranging from "Strongly Agree" to "Strongly Disagree" (Asked in 1989, 1998, and 2006).

Satisfaction with Promotion Opportunities:

To what extent does the statement "*The Chances for Promotion are Good*" apply to your own job? Possible responses are "Very True", "True", "Somewhat True", and "Not at All True" (Asked in 1969/1970, 1973, and 1977).

How much do you agree or disagree the statement "*My Opportunities for Advancement are High*" applies to your main job? Responses fell into five categories ranging from "Strongly Agree" to "Strongly Disagree" (Asked in 1989, 1998, and 2006).

Satisfaction with Job Security:

To what extent does the statement "*The Job Security is Good*" apply to your own job? Possible responses are "Very True", "True", "Somewhat True", and "Not at All True" (Asked in 1969/1970, 1973, and 1977).

How much do you agree or disagree the statement "*My Job is Secure*" applies to your main job? Responses fell into five categories ranging from "Strongly Agree" to "Strongly Disagree" (Asked in 1989, 1998, and 2006).

Satisfaction with Intrinsic Rewards:

To what extent does the statement "*The Work is Interesting*" apply to your own job? Possible responses are "Very True", "True", "Somewhat True", and "Not at All True" (Asked in 1969/1970, 1973, and 1977).

How much do you agree or disagree the statement "*My Job is Interesting*" applies to your main job? Responses fell into five categories ranging from "Strongly Agree" to "Strongly Disagree" (Asked in 1989, 1998, and 2006).

Satisfaction with Autonomy:

To what extent does the statement "*I am Given a lot of Freedom to Decide how I do my own Work*" apply to your own job? Possible responses are "Very True", "True", "Somewhat True", and "Not at All True" (Asked in 1969/1970, 1973, and 1977).

How much do you agree or disagree the statement "*I can Work Independently*" applies to your main job? Responses fell into five categories ranging from "Strongly Agree" to "Strongly Disagree" (Asked in 1989, 1998, and 2006).

Satisfaction with Work Load:

To what extent does the statement "*I am not Asked to do Excessive Amounts of Work*" apply to your own job? Possible responses are "Very True", "True", "Somewhat True", and "Not at All True" (Asked in 1969/1970, 1973, and 1977).

How frequently "*Do you Come Home from Work Exhausted*"? Responses fell into five categories ranging from "Always" to "Never" (Asked in 1989, 1998, and 2006).

Satisfaction with Work Pace:

To what extent does the statement "*I have Enough Time to get the Job Done*" apply to your own job? Possible responses are "Very True", "True", "Somewhat True", and "Not at All True" (Asked in 1969/1970, 1973, and 1977).

How frequently "*Do you find your Work Stressful*" applies to your main job? Responses fell into five categories ranging from "Always" to "Never" (Asked in 1989, 1998, and 2006).

Chapter 4

Material Well-Being – Worker Satisfaction with Compensation, Promotion Opportunities and Job Security

In this chapter I analyze trends in worker's subjective perceptions of satisfaction with pay, promotion opportunities, and job security. The exploratory factor analysis presented in the previous chapter suggests these variables load on a single underlying latent factor (see Figure 3.1, pp. 72). Furthermore, satisfaction with compensation, promotion opportunities, and job security can be thought of as conceptually distinct from other measures of worker well-being. For example, each of these measures is, arguably, capturing a domain of subjective well-being that is related to the material rewards associated with work. One's satisfaction with compensation is a direct indication of happiness with the material rewards provided by one's job. Satisfaction with promotion opportunities may suggest the anticipation of increases in the remunerative rewards accruing to future employment. Finally, sentiments of job security may suggest a worker expects, at the very least, no large decline in material well-being – at least for the foreseeable future.

Satisfaction with Promotion Opportunities

Figure 4.1 displays point estimates for the proportion of respondents selecting either of the two most positive categories of the promotion variable for all six years. In other words, Figure 4.1 shows the percentage of workers claiming to have an optimistic outlook regarding the possibility of future promotion. I also provide 95% confidence intervals for each point estimate to indicate the level of uncertainty associated with each year. As is evident from the figure, the percentage of workers expressing optimism is higher in the 1989-2006 period than in the 1970-1977 period. This suggests

workers in later years are more satisfied with their chances of receiving a promotion when compared to past cohorts of workers. The proportion of workers expressing satisfaction with promotion

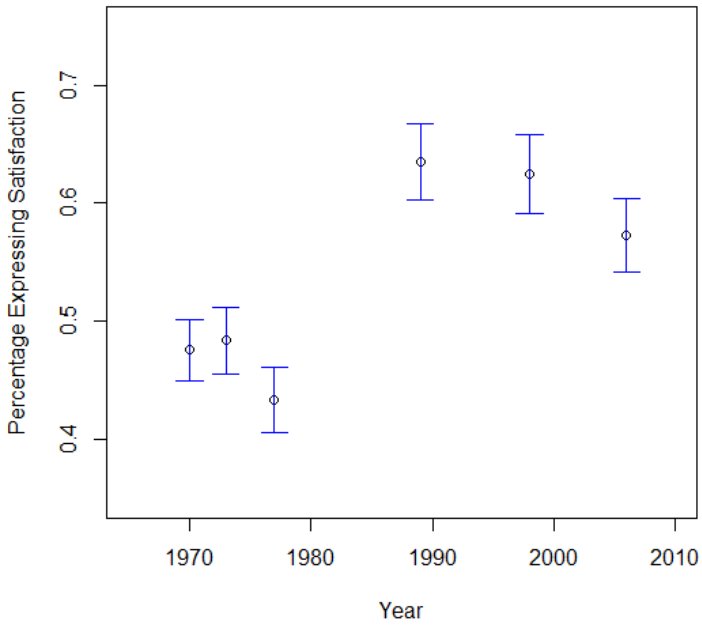

Figure 4.1 – Percent of Respondents Selecting either of the two Most Positive Responses to the Promotion Opportunities Questions

Data from 1970 is drawn from the Survey of Working Conditions (Quinn, Seashore & Mangione, 1975), data from 1973 & 1977 are drawn from the Quality of Employment Survey (Quinn & Stains, 1984), data from 1989, 1998 & 2006 are drawn from the General Social Survey (Davis, Smith and Marsden, 2009)

See Appendix 3.1 (pp. 75-76) for details on the categories of the promotion opportunities question for each year.

Vertical bars indicate 95% confidence intervals

opportunities hovers around the 40%-50% range in 1970, 1973, and 1977. However in the latter three years under consideration, approximately 60%-65% of workers expressed positive sentiments regarding promotion. While assessments do appear to decline somewhat in the final year of analysis, the confidence interval for 2006 overlaps with the confidence intervals for 1989 and 1998. This suggests the drop in satisfaction observed in 2006 may have been due to sampling error. Hence, the available data hints that self-assessments of promotion opportunities were relatively low in the

1970s, experienced an increase sometime between 1977 and 1989, and then plateaued post-1989. Unfortunately, no data exists for the years between 1970-1977 and 1989-2006 – making it impossible to determine precisely when workers' self-assessments of promotion opportunities began their ascent.

Although my main interest is in describing aggregate trends in worker well-being over time, it is also important to examine how these trends may differ across groups of workers. The importance of this is underscored when looking at, for example, systemic differences between men and women in response to questions of subjective well-being (Kim, 2005; Hodson, 1989; Penley & Hawkins, 1980). Further, differences between sub-groups (e.g. sex, race/ethnicity, age) may generate a distorted image of the trends in subjective assessments insofar as the composition of the labor market undergoes change over time. For instance, if a sub-group that is pre-disposed to answer questions about subjective well-being more positively than the average worker enters the labor market in large numbers, then we would expect overall average estimates to be more positive as well. Thus, any change in average levels of subjective assessments across time can reflect changes in the composition of the workforce rather than the changes in employment relations, with which I am primarily concerned. Thus disaggregation by sub-group not only allows for an examination of trends in measures across different demographics. It also provides an opportunity to control for the effects of changes in labor market composition on the average levels of worker response in the analyses presented later in this chapter. In what follows, I will break down self-assessments of promotion opportunities by sex, race, educational attainment, age, earnings, and occupational status. However, because my primary concern is assessing differences between the 1970s (for my purposes, the labor-capital accord period) and the era of flexible production, I will further disaggregate the data by era. Workers drawn from 1970, 1973 and 1977 will constitute the *labor-capital accord* group and workers

surveyed in 1989, 1998 and 2006 will be the *flexible production* group. Table 4.1 provides a graphical depiction of this division using sex as the primary classificatory category.

Demographic Group			
Men		Women	
Historical "Era"			
Labor-Capital Accord	Flexible Production	Labor-Capital Accord	Flexible Production

Table 4.1 – Disaggregation of Sample by Demographic Characteristic and Historical "Era"

In the analyses presented below, I seek to answer the question of whether different groups of workers experienced the transition to flexible production in different ways. For example, did trends among men and women mirror one another, or did men and women experience changes in the employer-worker relationship differently? In order to answer this question I will first calculate the average proportion of positive responses for each sex, drawn from the labor-capital accord, and the flexible production groups, respectively. After obtaining these averages, I will then subtract the proportion of satisfied accord-era workers from the proportion of satisfied flexible production workers, for each sex. These differences provides me with a measure of the extent to which self-assessments of a particular domain of worker well-being rose (or fell), for each sex, relative to the accord-era. After attaining these first differences, I will conduct a difference in differences test to assess whether the rise (or fall) in self-assessments that occurred during the transition from the labor-capital accord to the era of flexible production differed between men and women[1]. These analyses will serve to contextualize the aggregate trends presented in Figure 4.1. Note that I return to

[1] The test statistic for a difference in differences for a proportions is as follows (Blalock, 1979 pp. 235):

$$\frac{(p_{11} - p_{12}) - (p_{21} - p_{22})}{\sqrt{\frac{p_{11}(1 - p_{11})}{N_1} + \frac{p_{12}(1 - p_{12})}{N_2} + \frac{p_{21}(1 - p_{21})}{N_3} + \frac{p_{22}(1 - p_{22})}{N_4}}}$$

When testing differences between the improvement in men's and women's self-assessed satisfaction with promotion opportunities $p_{11} - p_{12}$ is the difference in average satisfaction across the two "eras" (flexible production and labor-capital accord) for men and $p_{21} - p_{22}$ is the difference in average satisfaction for women. In the above example, a difference in proportions test for men's and women's self-assessments of promotion opportunities for the years 1977 and 2006 generates a z-statistic of -16.31.

this "difference in differences" strategy to assess divergent trends among categories of workers throughout my dissertation.

Table 4.2 displays percentages of workers positively assessing promotion opportunities, broken down by sex, race, educational attainment, age, earnings, and occupational status. Table 4.2 suggests men tend to express more positive self-assessments regarding promotion opportunities relative to women. However, women's satisfaction with promotion opportunities appears to have improved at a faster rate. For example, in 1977, 47.7% of men, and 36.3% of women, selected one of the two most positive categories for the promotion variable. However, by 2006 these percentages had increased to 60.9% and 52.5%, respectively. Indeed, 51.5% of men drawn from the labor-capital accord group expressed satisfaction with promotion, compared to 37.5% of labor-capital accord women. However, satisfaction rates among accord-era men and women increased to 65.2% and 57.1% respectively. This suggests an improvement of 13.7% for men and 19.6% for women – a difference of 5.9%. Further, a difference in differences test reveals this gap is statistically significant at the .001 level. In other words, increased optimism among women likely has a disproportionate effect on the positive trend presented in Figure 4.1.

Table 4.2 suggests whites tend to have more positive self-assessments of promotion opportunities when compared to African-Americans. However, there is little evidence that over-time trends in African-Americans' assessments of promotion opportunities have differed much from those of whites. Taking the three-year averages yields a satisfaction rate of 47.1% among accord-era whites and 43.0% among accord-era African-Americans. The corresponding rates for flexible production whites and blacks are 61.0% and 55.4%, respectively. This suggests a net improvement in outlook of 13.9% among whites and 12.4% among African-Americans. However, a difference in differences test reveals this gap (1.5%) is not statistically significant.

(Promotion)	1970	1973	1977	1989	1998	2006
Sex						
Men	53.6	53.2	47.7	67.6	67.0	60.9
Women	36.8	39.3	36.3	58.9	58.8	53.5
Race						
White	47.2	50.0	44.1	63.8	62.6	56.5
African American	53.4	38.7	36.9	57.5	54.2	54.5
Education						
L/T H.S.	40.7	38.9	39.7	45.5	50.6	53.3
H.S. Grad	46.4	50.2	43.0	65.8	63.3	51.4
Some College	51.7	49.8	47.4	67.4	63.3	58.4
College Grad	62.6	58.7	51.4	66.4	66.9	64.8
G/T College	60.4	55.7	38.5	65.8	61.5	63.9
Age						
L/T 28	53.7	49.9	45.7	68.6	72.1	59.5
28 – 49	50.6	51.8	44.3	66.3	64.1	60.0
49 +	37.7	40.3	39.1	50.8	51.8	52.1
Earnings						
L/T $20,000	29.7	33.6	35.4	54.3	52.6	48.9
$20,000 - $40,000	48.9	43.8	38.5	60.1	63.3	47.1
$40,000 - $60,000	52.3	51.8	46.4	68.3	70.2	60.2
G/T $60,000	55.4	57.0	45.9	73.7	66.3	67.7
Occupation						
White-Collar	56.1	55.4	50.4	68.8	67.4	63.5
Blue-Collar	47.9	46.1	40.4	64.5	58.5	57.5
Clerical	42.3	51.5	39.4	63.0	55.2	48.2
Service	34.2	35.1	40.9	40.9	57.4	45.7

Table 4.2 – Percentage of Respondents Selecting either of the two Most Positive Responses to the Promotion Opportunities Questions

Data from 1970 is drawn from the Survey of Working Conditions (Quinn, Seashore & Mangione, 1975), data from 1973 & 1977 are drawn from the Quality of Employment Survey (Quinn & Stains, 1984), data from 1989, 1998 & 2006 are drawn from the General Social Survey (Davis, Smith and Marsden, 2009)

See Appendix 3.1 (pp. 75-76) for details on the categories of the promotion opportunities question for each year.

Occupational categories were constructed using the 1980 Census occupational classification system. White-collar workers include those employed in managerial, professional or technical occupations. Blue-collar workers are employed in craft or operative occupations.

Higher levels of educational attainment tend to be, unsurprisingly, associated with more positive self-assessments of promotion opportunities. For example, in 1977, 43.0% of workers with only a high school education selected one of the two most positive responses, whereas the corresponding percentage for college graduates was 51.4%. However, the relationship between education and self-assessed promotion opportunities is not always monotonic. In 1989 and 1998 the difference in opinions between high school-educated, and college-educated, workers are negligible. Indeed, there are a few years in which highly educated workers express more negative opinions than do their less educated counterparts. However, the three-year averages for labor-capital accord high school graduates and college graduates are 46.5% and 57.6%, respectively. On the other hand, 60.2% of high-school graduates, and 66.0% of college educated workers, drawn from the flexible production group expressed satisfaction with promotion opportunities. Hence, when comparing self-assessments of promotion opportunities across the two "eras", high school graduates were 13.7% more likely to express satisfaction in the later period, compared to the 8.4% increase experienced by college graduates – a difference that is statistically significant at the .05 level. This suggests that sentiments of high school graduates improved more rapidly over the period under consideration than did those of college graduates.

There appears to be little difference in promotion outlook between young workers (less than 28 years of age) and middle-age workers (28-49). The percentage of workers positively self-assessing promotion opportunities generally increases across time for both groups. Older workers (49+), on the other hand, appear to have decidedly more negative opinions regarding promotion opportunities. This, of course, makes perfect sense as older workers, by dint of their experience, are more likely to occupy higher ranking positions and hence have fewer opportunities for additional upward mobility. A comparison of older and younger workers across the two eras under consideration yields positive self-assessment rates of 39.0%, and 49.8%, for elder, and younger,

accord-era workers respectively. In contrast the three-year averages for workers drawn from the flexible production group stand at 51.6% among older, and 66.7% among younger, workers. Hence, older workers drawn from the era of flexible production were 12.6% more likely to positively self-assess on the promotion variable when compared to their accord-era peers. The corresponding increase among younger workers is 16.9%. Further, a difference in differences test shows the gap in percentage improvement between younger and older workers is statistically significant at the .05 level. This finding suggests that not only are younger workers more likely to positively self-assess on the promotion variable, but the rate at which younger workers express positive sentiments has increased more rapidly than that for older workers.

Unsurprisingly, higher earnings are associated with more positive self-assessments of promotion opportunities. However, there is some evidence that attitudes among low earners may have improved at a faster rate relative to higher earners. The average percentage of positive responses in the flexible production period was 19% higher among low earners than in the labor-capital accord period. The corresponding improvement in sentiments among high earners is a lower 16.4%. Further, a difference in differences test of the gap (2.6%) in improvement between high and low earners reaches statistical significance at the .001 level. This suggests that, while low earners have poorer promotion outlooks when compared to high earners, the difference between these two groups has narrowed over time.

White-collar workers appear to have more positive opinions regarding promotion opportunities when compared to other groups of workers[2]. Clerical workers' self-assessments appear similar to

[2] White-collar workers work in managerial, technical or professional occupations. Blue-collar workers are engaged in crafts or machine tending-type occupations.

those of blue-collar workers. However, the promotion outlooks among those employed in service occupations are consistently lower than those held by workers in other occupations.

On the other hand, there is some evidence that the advantage enjoyed by white-collar workers may be narrowing. The three-year average (1970, 1973, 1977) of positive responses among white-collar workers and blue-collar workers are 54.4% and 44.8% respectively. However, the average percentages of flexible production workers responding positively to the promotion variable are 66.6% for white-collar workers and 60.2% for blue-collar workers. This corresponds to a net improvement of 15.4% among blue-collar workers and 12.6% among white-collar workers. A test of these differences among blue- and white-collar workers is significant at the .001 level.

Satisfaction with Pay

Figure 4.2 shows the percentage of workers selecting one of the two most positive categories for the pay satisfaction variable. The vertical bars in Figure 4.2 indicate 95% confidence intervals for each year under consideration. Figure 4.2 suggests workers self-assessments of pay have deteriorated over the period 1970 to 2006. Satisfaction rates in the accord-era hovered in the 65%-75% range. In contrast, only about 50%-60% of flexible production workers expressed similar satisfaction. Further, this deterioration is nearly monotonic – the only exception to the negative trend occurs in 1973, and even this estimate is statistically indistinguishable from the 1970 estimate. Thus Figure 4.2 suggests worker self-assessments of pay were already on the decline as early as 1977, and continued their downward trajectory into the 80s, 90s, and 00s. Indeed, the three-year averages in self-assessed satisfaction with pay are 71.4% in the labor-capital accord period, and 54.5% in the flexible production period. This represents an average decline of roughly 17%. A difference in proportions

test reveals this difference is statistically significant at the .001 level[3]. Hence these findings suggest recent cohorts of workers express less satisfaction with pay when compared to their historical counterparts.

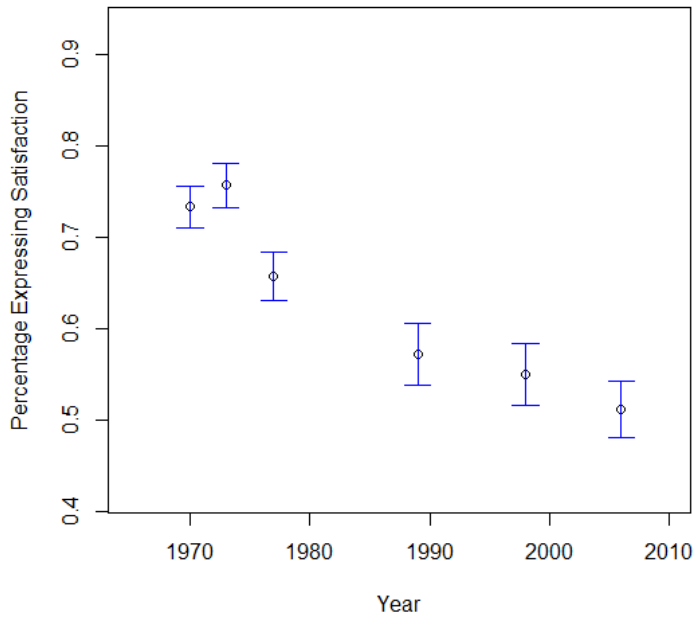

Figure 4.2 – Percent of Respondents Selecting either of the two Most Positive Responses to the Pay Questions

- ***a.*** *Data from 1970 is drawn from the Survey of Working Conditions (Quinn, Seashore & Mangione, 1975), data from 1973 & 1977 are drawn from the Quality of Employment Survey (Quinn & Stains, 1984), data from 1989, 1998 & 2006 are drawn from the General Social Survey (Davis, Smith and Marsden, 2005)*
- ***b.*** *See Appendix 3.1 (pp. 67-68) for details on the categories of the pay question for each year.*
- ***c.*** *Vertical bars indicate 95% confidence intervals*

Table 4.3 shows the percentage of workers positively self-assessing (selecting one of the two most positive responses) on the pay variable, broken down by sex, race, educational attainment, age,

[3] The test statistic for a difference in proportions test is as follows (Agresti & Finley, 2008):

$$\frac{p_1 - p_2}{\sqrt{p(1-p)\left[\frac{1}{n_1} + \frac{1}{n_2}\right]}}$$

(Pay)	1970	1973	1977	1989	1998	2006
Sex						
Men	76.3	78.7	70.9	63.8	61.8	58.2
Women	67.9	69.9	57.1	49.6	49.3	43.8
Race						
White	73.8	77.3	67.2	58.1	55.7	52.6
African American	69.6	62.2	47.6	49.3	45.8	45.5
Education						
L/T H.S.	68.1	67.3	65.0	33.0	44.3	45.9
H.S. Grad	72.7	76.1	69.3	62.4	53.0	46.6
Some College	79.0	78.8	60.4	57.7	53.7	46.9
College Grad	81.3	79.8	69.2	63.7	58.1	62.3
G/T College	78.1	88.6	62.3	61.5	66.7	61.8
Age						
L/T 28	72.9	71.5	59.0	52.4	51.0	44.6
28 – 49	73.3	78.5	66.8	61.6	58.3	54.3
49 +	73.7	76.3	72.4	50.8	50.3	49.4
Earnings						
L/T $20,000	56.2	53.0	43.4	36.8	36.8	32.1
$20,000 - $40,000	73.9	72.1	51.9	51.4	47.9	41.3
$40,000 - $60,000	81.3	82.9	71.6	67.8	64.4	58.8
G/T $60,000	77.6	84.3	73.8	77.2	74.6	67.1
Occupation						
White-Collar	79.9	80.3	66.7	63.8	60.8	59.7
Blue-Collar	75.6	76.4	68.8	59.0	52.4	47.3
Clerical	70.1	75.3	64.0	53.3	41.0	43.9
Service	59.7	59.0	51.9	35.5	50.9	34.8

Table 4.3 – Percentage of Respondents Selecting either of the two Most Positive Responses to the Pay Questions

Data from 1970 is drawn from the Survey of Working Conditions (Quinn, Seashore & Mangione, 1975), data from 1973 & 1977 are drawn from the Quality of Employment Survey (Quinn & Stains, 1984), data from 1989, 1998 & 2006 are drawn from the General Social Survey (Davis, Smith and Marsden, 2009)

See Appendix 3.1 (pp. 75-76) for details on the categories of the pay question for each year.

Occupational categories were constructed using the 1980 Census occupational classification system. White-collar workers include those employed in managerial, professional or technical occupations. Blue-collar workers are employed in craft or operative occupations.

income, and occupation. As is evident from Table 4.3, men tend to hold more positive self-assessments relative to women. Furthermore, women's satisfaction with pay appears to have deteriorated faster than men's. For example, in 1973, 78.7% of men positively self-assessed on the pay variable, whereas the percentage of women expressing similarly positive outlooks was 69.9% - a difference of 8.8%. However, in 2006, 58.2% of men, and 43.8% of women held positive self-assessments of financial remuneration – a difference of 14.4%. This suggests that, despite decreases in the gender-wage gap over the period of study, the gap in *self-assessed satisfaction* with pay is *widening* between men and women.

Table 4.3 suggests that whites tend to be more satisfied with earnings from work than are African-Americans. However, there appears to be some evidence that African-Americans are closing gap. The three-year average for the labor-capital accord-era is 72.7% positive among whites and 59.8% positive among African-Americans. In contrast, the three-year average for the flexible production period is 55.5% among whites and 46.9% among African-Americans. Hence, whites experienced a decline in positive self-assessments of 17.2%, whereas the decline among African-Americans was 15.9%. A difference in differences test reveals that the gap (1.3%) between the deterioration in sentiments for whites and African-Americans is statistically significant at the .05 level. Thus, while sentiments regarding pay appear to have deteriorated for both groups, the deterioration appears to have been slightly more extensive among whites.

Higher levels of education tend to be associated with greater satisfaction with pay. Averaging across all six years of data, 69.1% of college graduates positively self-assess on the pay variable, whereas only 63.4% of high school graduates express similar opinions. However, the deterioration in self-assessed satisfaction with pay appears to be most extreme among those without a high school diploma. The three-year averages of self-assessed satisfaction among accord-era workers are 66.8%,

72.2%, and 76.8% for high school dropouts, high school graduates, and college graduates, respectively. In contrast, the average percentage of those positively self-assessing for the years 1989, 1998, and 2006 (flexible production group) are 41.1% among high school dropouts, 54.0% among high school graduates, and 61.4% among college graduates. This suggests a decline in satisfaction of 25.7% among high school dropouts – substantially greater than the erosion experienced by high school graduates (18.2%) and college graduates (15.4%). Both gaps (HS Grad/LT HS & College Grad/LT HS) achieve statistical significance when subjected to a difference in differences test. Hence the data suggest that while sentiments of satisfaction with pay have deteriorated for all educational groups, the deterioration is particularly pronounced among those without a high school diploma.

Over the period 1970-1977, all age groups appeared to be similar in terms of satisfaction with pay. However, during the period 1989-2006, middle-aged workers appear to express greater satisfaction with pay relative to both their younger, and older, counterparts. This suggests that satisfaction with pay deteriorated more rapidly among the young, and the old, than among workers aged 28-49. Indeed, the average percentage decline in self-assessed satisfaction with pay, from 1970-1977 (accord group) to 1989-2006 (flexible production group), was 14.8% among middle-aged workers and 23.9% among older workers. Hence satisfaction rates for older workers fell 9.1% further then the decline experienced by the middle age category – a difference in differences test reveals this gap to be statistically significant at the .001 level. This suggests that older workers, in particular, have faced deteriorating employment prospects – at least in terms of self-assessed satisfaction with pay.

Unsurprisingly, higher earning workers are more satisfied with pay than are their lower earning counterparts. Furthermore, worker satisfaction with pay appears to have eroded for each of the four earnings categories shown in Table 4.3. However, the erosion in worker satisfaction with pay

appears to be strongest for lower earners. The three-year average positive self-assessment rate for 1970, 1973 & 1977 (the labor-capital accord group) was 50.9% for those earning less than $20,000, and 78.6% for workers earning more than $60,000 annually. The analogous averages for the years 1989, 1998 & 2006 (the flexible production group) were 35.2% and 73.0% for low and high earners respectively. This suggests an average decline in worker satisfaction with pay of 18.7% among low earners and 5.6% among high earners. A difference in differences test reveals that the gap (13.1%) between the deterioration in sentiments for high earners and low earners is statistically significant at the .001 level. Hence it appears that, while all groups of earners claim less satisfaction with pay, dissatisfaction is particularly concentrated among those with low earnings.

White-collar workers express greater satisfaction with pay when compared to other occupational groups. However, the erosion in self-assessed satisfaction with pay appears to have affected all groups of workers – irrespective of occupational category. Yet the opinions of service, and blue-collar workers appear to have experienced a more severe deterioration. For example, in 1970, 75.6% of blue-collar, and 59.7% of service workers selected one of the two most positive categories for the pay question. By 2006 these percentages had declined to 47.3% and 34.8%, respectively. Interestingly, the percentage of white- and blue-collar workers positively self-assessing on the pay question are quite similar for the labor-capital accord years. However, there appears to be a divergence in opinions post 1977. The three-year decline in self-assessments of pay was a relatively modest 14.2% for white-collar workers. The analogous average decline among blue-collar workers was 19.7%. Further, a difference in differences test reveals that the gap (5.5%) between the deterioration in sentiments for white- and blue-collar workers is statistically significant at the .001 level. This suggests that while both occupational groups experienced a decrease in satisfaction with pay, deterioration was especially pronounced among blue-collar workers.

Satisfaction with Job Security

Figure 4.3 shows the proportion of workers selecting either of the two most positive responses to the job security question for each year under consideration. The vertical bars indicate 95% confidence intervals for these estimates. Positive response rates for the labor-capital accord-era (1970, 1973 & 1977) fall in the 75%-80% range. Among flexible production workers (1989, 1998 & 2006), positive self-assessments fall in the 70%-75% range – suggesting a possible over-time decline in workers' sentiments of job security. While the confidence intervals show do overlap somewhat between years, the intervals for 1996 and 2006 fall entirely outside the range of the confidence intervals for 1970 and 1973. This suggests, at the very least, workers in 1996 and 2006 expressed more pessimism regarding job security than did workers in 1970 and 1973. However, there appears to be little difference in the way workers in 1977 and 1989 expressed satisfaction with job security. This possibly suggests declines in subjective assessments of job security did not begin to undergo decline until sometime after 1989. Nevertheless, the three-year averages in self-assessed satisfaction with job security are 78.3% in the labor-capital accord period, and 72.4% in the flexible production period – an average decline of roughly 6%. A difference in proportions (see pp. 86) test reveals this gap is statistically significant at the .001 level. These findings suggest recent cohorts of workers express less satisfaction with job security when compared to their historical counterparts.

Table 4.4 shows the percentage of workers positively self-assessing (selecting one of the two most positive responses) on the job security variable, broken down by sex, race, educational attainment, age, income, and occupation. As is evident from Table 4.4, men tended to express more positive opinions regarding job security than did women in the labor-capital accord years. However, women's opinions appear to be more positive than men's in the era of flexible production.

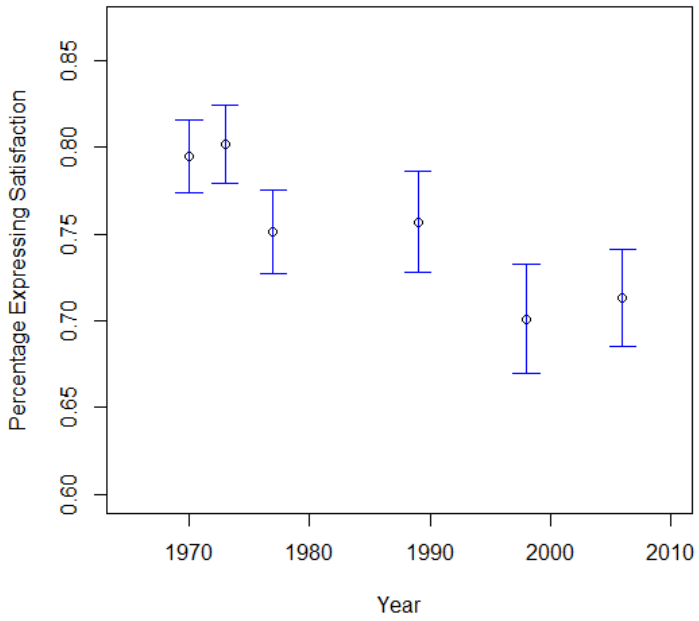

Figure 4.3 – Percent of Respondents Selecting either of the two Most Positive Responses to the Job Security Questions
Data from 1970 is drawn from the Survey of Working Conditions (Quinn, Seashore & Mangione, 1975), data from 1973 & 1977 are drawn from the Quality of Employment Survey (Quinn & Stains, 1984), data from 1989, 1998 & 2006 are drawn from the General Social Survey (Davis, Smith and Marsden, 2009)
See Appendix 3.1 (pp. 75-76) for details on the categories of the job security question for each year.
Vertical bars indicate 95% confidence intervals

Averaging positive self-assessments across the first three-years yields a positive self-assessment rate of 79.5% among men and 76.0% among women. In contrast, among workers surveyed in the 1989-2006 period an average of 71.3% of men, and 73.3% of women, expressed positive opinions. This constitutes an 8.2% decline in positive assessments among men, and a 2.7% decline among women. A difference in differences test reveals this gap (5.5%) to be statistically significant at the .001 level. This suggests that much the decline in the aggregate self-assessments of job security displayed in Figure 4.3 is due to an erosion of sentiments among men. Indeed, women's self-assessed job security appears to have remained relatively stable over the entire 1970-2006 period.

(Security)	1970	1973	1977	1989	1998	2006
Sex	82.4	81.8	74.2	76.9	67.3	69.6
Men	74.2	77.1	76.7	74.3	72.4	73.1
Women						
Race						
White	80.4	82.4	76.2	76.4	73.2	74.9
African American	73.6	60.4	63.1	68.5	57.0	56.8
Education						
L/T H.S.	73.5	71.6	70.4	67.9	60.8	63.0
H.S. Grad	80.4	81.9	76.5	74.1	68.5	68.6
Some College	85.3	84.6	77.4	74.9	76.4	71.4
College Grad	86.0	82.7	69.2	82.3	66.2	80.2
G/T College	81.3	86.4	81.1	82.1	74.0	75.7
Age						
L/T 28	76.1	76.3	71.9	75.4	74.8	79.1
28 – 49	81.4	83.6	75.6	76.6	69.3	69.4
49 +	79.6	79.3	78.6	73.4	68.3	70.7
Earnings						
L/T $20,000	67.1	65.5	69.7	67.0	65.0	55.5
$20,000 - $40,000	85.1	80.3	70.1	77.0	70.7	67.4
$40,000 - $60,000	87.9	84.1	82.0	82.2	70.7	73.9
G/T $60,000	76.3	85.2	75.0	80.4	75.1	72.2
Occupation						
White-Collar	83.9	82.4	78.7	79.7	71.8	76.8
Blue-Collar	79.4	76.4	70.7	71.6	64.6	62.9
Clerical	81.2	87.6	78.3	72.6	70.5	71.9
Service	68.5	76.9	77.9	75.3	72.2	72.5

Table 4.4 – Percentage of Respondents Selecting either of the two Most Positive Responses to the Job Security Questions

Data from 1970 is drawn from the Survey of Working Conditions (Quinn, Seashore & Mangione, 1975), data from 1973 & 1977 are drawn from the Quality of Employment Survey (Quinn & Stains, 1984), data from 1989, 1998 & 2006 are drawn from the General Social Survey (Davis, Smith and Marsden, 2009)

See Appendix 3.1 (pp. 75-76) for details on the categories of the job security question for each year.

Occupational categories were constructed using the 1980 Census occupational classification system. White-collar workers include those employed in managerial, professional or technical occupations. Blue-collar workers are employed in craft or operative occupations.

Table 4.4 suggests whites tend to feel more secure in their jobs than do African-Americans. However, there appears to be little evidence that whites and blacks experienced over-time changes in positive assessment rates differently. The percentage decline in average self-assessments of job security from the labor-capital accord years (1970-1977) to the flexible production years (1989-2006) was 4.9 percent for both whites, and African-Americans. Hence, while sentiments have declined across the board, trends among whites and blacks appear to roughly mirror one another.

Unsurprisingly, higher levels of education tend to be associated with more positive self-assessments of job security – however, there are some inconsistencies in this relationship. For example, in some years, college graduates appear to express more positive opinions than do those with a post-graduate education. On average, however, the steepest declines in self-assessed job security tend to be concentrated among high school graduates, and those with some college. The three-year average decline in positive self-assessments across the accord and flexible production periods was 9.2% among those with just a high school diploma, and 8.2% among those with some college. These drops stand in contrast to the 3.0% decline experienced by college graduates. Further, a difference in differences test reveals the gap in the decline experienced by high school graduates and college graduates (6.2%) is statistically significant at the .001 level. These findings suggest that much of the aggregate declines in satisfaction with job security presented in Figure 4.3 are due to erosion in the sentiments of high school graduates, rather than their college educated counterparts.

In addition, Table 4.4 suggests that from 1970-1977 younger workers felt less secure than did their elders. The three-year average positive assessment rate for the labor-capital accord-era was 74.8% among young workers, 80.2% among middle-aged workers, and 79.2% among older workers. However, fortunes appear to have since reversed as young workers claim to be more secure than

their elders in 1998 and 2006. Positive assessments of job security for workers drawn from the era of flexible production were 8.4% lower for older workers, and actually increased slightly (1.6%) for young workers. Indeed, there appears to be very little movement in the percentages of young workers selecting one of the two most positive responses to the job security question. This suggests that any portion of the net decline in perceptions of job security attributable to age is likely due to declining self-assessments among older workers.

Higher earnings appear to be positively associated with self-assessments of job security. For example, 64.5% of workers earning less than $20,000, and 77.4% of workers earning greater than $60,000 annually, selected one of the two most positive responses to the job security question. However, an over-time deterioration in perceptions of job security is present and appears to be concentrated among earners in the middle of the distribution. Among workers earning between $20,000 and $40,000 the three-year average positive self-assessment rates were 78.5% (accord-era) and 71.75% (flexible production era). This suggests an across-group average decline of 6.8% among middle earners. Among the highest earners, the average across-group decline in self-assessments was considerably lower (1.4%). A difference in differences test reveals the gap (4.4%) between the deterioration in sentiments for high- and middle-earners is statistically significant at the .001 level. Indeed, it appears that among high earners, self-assessments of job security have undergone very little change over time. This suggests that any portion of the decline in self-assessments of job security presented in Figure 4.3 attributable to earnings is a consequence of declining opinion among middle-to-lower earners.

White-collar workers appear to express more satisfaction with job security than do workers in other occupations. Further, most of the decline in satisfaction with job security appears to be concentrated among blue-collar workers. The average three-year positive response rate among blue-collar workers

was 75.5% in the labor-capital accord-era, and 66.4% in the flexible production period. This represents an average decline of 9.1%. The corresponding decline among white-collar workers is 5.6%. A difference in differences test shows that the gap (3.5%) between white- and blue-collar workers is statistically significant at the .001 level. Indeed, it appears that when compared to blue-collar workers there is relatively little over-time movement among workers of other occupational groups. This suggests that any deterioration in aggregate satisfaction with job security attributable to occupation is likely driven by declines among blue-collar workers.

Summary: Trends in Satisfaction with Material Rewards

The trends in self-assessments of material rewards presented above tell a mixed story about worker well-being. On the one hand, contemporary workers appear to be much more optimistic about opportunities for promotion. Further, there is some evidence that evaluations of promotion prospects among traditionally disadvantaged groups have grown markedly more optimistic in recent years. For example, while women are still slightly less likely than men to report satisfaction with promotion opportunities, this gap has narrowed considerably over time.

However, this news is offset by evidence that contemporary workers express growing pessimism when asked about both their pay and their job security. Positive self-assessments of pay and job security have experienced substantial erosion over the period 1970-2006. In addition, opinions appear to have especially soured among those groups more likely to experience economic hardship. For example, the deterioration in worker sentiments regarding pay was especially pronounced among women, those with low levels of educational attainment, and low earners. In addition, blue-collar workers in the period 1989-2006 expressed far less satisfaction with both pay and job security than did their 1970s counterparts. Conversely, those with more educational and economic resources appear to be better buffeted from declines in sentiments of job security.

Indeed, the evidence presented above appears to suggest there is quite a bit of variation in over-time trends between sub-groups of workers. In other words, different groups of workers appear to have experienced the transition from the labor-capital accord to flexible production differently. Table 4.5 summarizes the difference in differences tests discussed above to illustrate this point.

Dependent Variable	*Group Differences in Trends*	*t*
Promotion	Men – Women	-4.70***
Promotion	White – African American	.756
Promotion	College – High School	-2.51*
Promotion	Older - Younger	-2.42*
Promotion	High Earners – Low Earners	-7.41***
Promotion	White Collar – Blue Collar	-7.85***
Pay	Men - Women	-29.58***
Pay	White – African American	2.04*
Pay	High School – LT HS	-14.33***
Pay	College – LT HS	-14.43***
Pay	Middle Age - Older	-31.48***
Pay	High Earners – Low Earners	-37.82***
Pay	White Collar – Blue Collar	-15.37***
Security	Men - Women	5.11***
Security	College – High School	-3.40***
Security	High Earners – Middle Earners	-16.17***
Security	White Collar – Blue Collar	-8.26***

Table 4.5 – Difference in Differences Tests for Demographic Categories Across Time
Note: Negative t-scores suggest that improvements/deteriorations in sentiments were steeper among the "subtracted" group. For example, because women's improvements in promotion outlooks are being subtracted from men's, the negative t-score (-4.70) suggests women's sentiments improved at a more rapid pace than did men's.
Significant t-scores suggest that the rate at which sentiments improved (or deteriorated) over time differed for each demographic division.
**p < .05; **p < .01; ***p < .001(two-tailed tests)*

Labor Force Composition

Given that trends in worker self-assessments *do* vary by sex, race, educational attainment, age, earnings and occupation, it is possible the aggregate trends presented in Figures 4.1, 4.2 & 4.3 merely reflect shifts in the *composition* of the labor force. If this is the case, the aggregate trends in self-assessed worker well-being over time may not reflect a change in employment relations – but may instead be attributable to changes in the *types* of workers participating in the labor force. For

example, volumes have been published documenting the remarkable increase in female labor market participation over the past 40-50 years (Fullerton Jr, 1999; Hayghe, 1997; Goldin, 1990; see also, U.S. Department of Labor, 1989; U.S. Department of Labor, 1977; U.S. Department of Commerce, 1975). As a consequence, the proportion of all contemporary workers who are women is dramatically higher than it once was (Mishel, Bernstein & Allegretto, 2007; Hesse-Biber & Carter, 2000). Further, as briefly mentioned earlier, there is some evidence that women, and men, tend to respond differently to questions regarding job satisfaction. For example, Phelan (1994) found that women (and white-collar workers – another group whose ranks have grown) were more likely than other workers to express high levels of job satisfaction. Similarly, workers' self-assessments of well-being are likely conditioned by factors such as educational attainment, race, and age.

The composition of the labor force has undergone significant transformation in terms of each of these factors. For example, the contemporary labor market is noticeably more educated (Fischer & Hout, 2006), more non-white (Toosi, 2002), and older (Kalleberg, 2007) than the labor markets of the post-war accord. Hence, it is possible that any observed changes in worker self-assessments may be driven not by changes in the employer-employee relationship, but by changes in the composition of the labor force. In order to account for this possibility, it is necessary to subject the data to a multivariate analysis controlling for shifts in the composition of the labor force over time. The compositional controls to be included in the analyses presented in Chapters 4, 5, 6 are detailed below.

Control Variables

Labor markets are frequently conceptualized as gendered institutions (Acker, 1990). Because one's *sex* may be central to: 1) the types of jobs one is likely to occupy (Charles & Grusky, 2005; Altonji & Blank, 1999; Reskin, 1993; Reskin & Hartmann, 1986) and 2) how one is treated while on the job

(Bielby, 2005; Reskin, 2000; Kanter, 1977), gender is likely a central determinant of perceived on-the-job well-being. In a similar vein, one's *race* is likely influential in terms of access to certain workplaces and workplace opportunities (Pager & Shepard, 2008; Blank, 2004). The relationship between *age* and worker outcomes, while likely important, appears to be murkier. Some scholars have found a positive relationship between worker age and job satisfaction (Weaver, 1980; Hunt & Saul, 1975), whereas others have documented a non-linear association (Clark, Oswald & Warr, 1996). Finally, a positive relationship between *education* and job outcomes has been repeatedly demonstrated (Becker, 1994; Sewell & Hauser, 1975).

I will also include variables capturing workers' *part-time status*, *earnings*[4], and *occupation*[5]. Part-time work has been shown to confer substantial labor market disadvantages (Hirsch, 2005; Tilly, 1996). Finally, I will include a series of dummy variables capturing occupation to test for differences across types of work. While these variables measure attributes of jobs, more than attributes of workers, I expect each to correlate with measures of self-assessed job quality[6].

[4] Earnings categories are expressed in constant 2000 dollars. In addition, earnings categories refer to the (inflation adjusted) earnings of the worker, and not the household.

[5] Some readers may question the wisdom of including an earnings control in a model of worker satisfaction with pay. I chose to include this variable in Models 1b-4b because it makes sense that workers with higher earnings are likely to be more satisfied with what they are paid. Furthermore, the inclusion of an earnings control nets out the portion of any observed changes in worker satisfaction with pay directly attributable to changes in the earnings distribution. In any case, I re-ran models 1b-4b (see below) excluding controls for earnings and my substantive findings were unchanged from those reported here.

[6] Ideally, I'd like to be able to include controls for macro-economic conditions – particularly unemployment. However, because I only know the year from which respondents are drawn, the only measure of unemployment I can plausibly construct is an annual average. The average annual unemployment rate would, in fact, be a pretty good measure of macro-economic conditions. However, the inclusion of annual unemployment into a model of worker well-being would mean that every worker drawn from a given year would be assigned the same value of annual unemployment. Hence my measures for year and unemployment would be perfectly correlated – a condition known as multicollinearity. Indeed, attempts to model the data using annual unemployment as a predictor variable were unsuccessful due to said multicollinearity.

Analytic Strategy

For each measure, I will specify a total of four models. I begin by regressing workers' self-assessments promotion opportunities, pay, and job security on a set of dummy variables representing the year from which each observation was drawn using a logistic framework (Models 1). Model 2 repeats this analysis but includes the compositional controls discussed above. Note that the logistic regression model requires the dependent variable to be binary. In order to meet this requirement, I created a dichotomous measure of worker well-being by collapsing the two most positive, and the two most negative, survey responses. This measure is also the two-category definition used in the construction of Figures 4.1 - 4.3, and Tables 4.2 - 4.4. Because I began my study by looking at worker satisfaction from a dichotomous standpoint (the proportion of workers expressing positive, as opposed to negative, sentiments) the logistic regression model provides a natural starting place for multivariate analysis. However, the insistence of logistic regression on a dichotomous dependent variable is also – in this case – a partial drawback. My measures of workers' perceptions allow for four-categories of response – hence the logistic model requires that I throw some of the information at my disposal away. A better way to model a four-category ordinal dependent variable would take into account distinctions between each of the four categories. Perhaps the most commonly used method to account for ordinal dependent variables is the ordered probit model. However, one of the weaknesses of the ordered probit model is its implicit acceptance of the parallel regression assumption – an assumption that is frequently violated in practice (Long & Freese, 2006). In Appendix 4.1, at the end of this chapter, I conduct an analyses of the subjective perceptions data using an ordered probit framework, and test these models for violations of the parallel regression assumption. My findings strongly suggest the parallel regression assumption is, indeed, violated for these models – and hence, is (arguably) an inappropriate methodological choice. Therefore, instead of using the ordered probit model, I elected to build an additional set of models

(Models 3 & 4) using a stereotype logit framework. The stereotype logit model has the dual advantage of allowing for ordinal dependent variables *and* circumventing many of the restrictive assumptions that limit the utility of the ordered probit. I provide a detailed description of both the logistic regression model, and the stereotype logit model, below.

Model Specifications 1 & 2: The Logistic Regression Model

In the linear regression model (OLS) the relationship between the observed (independent) variables (x_i) and dependent variables (y_i) can be summarized as:

$$y_i = \boldsymbol{x_i\beta} + \varepsilon_i \quad \textbf{(1)}$$

The logistic regression model, on the other hand, treats the dependent variable as a latent variable capable of taking values from -∞ to ∞. Hence the logistic regression model can be summarized as:

$$y_i^* = \boldsymbol{x_i\beta} + \varepsilon_i \quad \textbf{(2)}$$

The connection between the observed dichotomous measures of y and the latent variable y* is achieved via the following measurement equation.

$$y_i = \left\{ \begin{matrix} 1 \; if \; y_i^* > 0 \\ 0 \; if \; y_i^* \leq 0 \end{matrix} \right\} \quad \textbf{(3)}$$

Hence, as shown in equation (4), the probability of an observed value y equaling 1 is equivalent to the probability that the latent variable y^* is greater than 0.

$$\Pr(y = 1|x) = \Pr(y^* > 0|x) \quad \textbf{(4)}$$

Long and Freese (2006, pp. 133) show that equation (4) can be re-written as:

$$\Pr(y = 1|x) = \Pr(\varepsilon > -[\alpha + \beta x]|x) \quad \textbf{(5)}$$

If the error term is assumed to have a mean of 0 and a variance of $\pi^2/3$ the logistic regression model is defined as:

$$\Pr(y = 1|x) = \frac{\exp(\alpha + \beta x)}{1 + \exp(\alpha + \beta x)} \qquad (\mathbf{6})$$

I construct two logistic regression models for each dependent variable. Model 1 regresses worker perceptions of material well-being at work on a set of dummy variables indicating the year from which each observation was drawn. Model 2 is an extension of Model 1 in which a vector of control variables (described above) are included. In both models, I define the baseline year as 1970 – the earliest year from which I have data, and the closest year to the post-war accord-era. Recall that my measures of worker perceptions are defined on a scale of one to four where 1 indicates the most negative, and 4 indicates the most positive response. Hence, in my logistic models, positive coefficient estimates on year dummy variables suggests movement towards more positive responses in worker self-assessments, compared to the base year of 1970. Conversely, negative coefficient estimates suggest a deterioration in worker perceptions relative to the baseline year.

Model Specifications 3 & 4: The Stereotype Logit Model (SLM)

While Models 1 & 2 provide a natural starting place for analysis, they do not take into account the ordered nature of my data. To better account for the ordinality of my dependent variables I specify two additional models (Models 3 & 4) using a Stereotype Logit Model (SLM) framework. As noted above, the SLM is similar to the more commonly used Ordered Probit Model. However unlike the ordered probit, SLM does not assume the regression coefficients remain constant across categories of the dependent variable – a imposition commonly referred to as the parallel regression assumption (see Appendix 4.1). In this respect, the SLM is similar to the Multinomial Logit Regression Model (MLRM). However, the MLRM assigns a beta coefficient for each independent variable, for each outcome category of the dependent variable – resulting in an overabundance of coefficients, and making interpretation difficult. Rather than assuming the βs are constant across outcome categories

(like the OPM), or assigning different βs to each outcome category (like the MLRM), SLM assumes the βs change by a common factor φ (Long & Freese, 2006). Hence the addition of φ into the model allows the beta coefficients to differ across outcome categories. Yet, because the SLM allows the beta coefficients to change by a *common* factor (φ), a single coefficient can be derived for each independent variable (Long and Freese, 2006, pp. 279).

Note that the Stereotype Logit Model with (m = 4) categories constrains the common factors $\varphi_4 = 0$ and $\varphi_1 = 1$. However, SLM places no other ordinality constraints on categories of the dependent variable. Thus it is possible, in principle, to estimate a model in which the φs associated with the "middle" categories of the dependent variable are out of order. Take, for example, a four-category outcome variable represented by the following categories: *strongly agree*, *agree*, *disagree*, *strongly disagree*. If *strongly agree* is defined as the base category, we would expect the "distance" between *strongly agree* and *disagree* to be greater than the distance between *strongly agree* and *agree* – this is equivalent to saying φ_2 should be greater than φ_3. Yet it is possible to estimate a model where $\varphi_3 > \varphi_2$ – essentially suggesting that the "distance" between *strongly agree* and *agree* is greater than the difference between *strongly agree* and *disagree*! While this may seem paradoxical, Long and Freese (2006, pp. 290-291) show that it does not affect the coefficients yielded by the SLM – if one were to purposely switch the middle two categories (in this case *agree* and *disagree*) the beta coefficients for the SLM remain unchanged from the original model in which the dependent variable was properly ordered. However, it may suggest a misspecified model because we would, of course, expect the ordering of the φ coefficients to correspond to the ordering of the dependent variable. Finally, it is important note that the SLM does estimate an intercept (θ) for each category of the dependent variable. The intercept for the base category of the dependent variable (θ_4) is, for identification purposes, defined as 0.

In regards to interpretation, one may express the odds of attaining outcome category (j) relative to the base category (4), conditioned on independent variable (x_k) as:

$$\exp\{(\varphi_j - \varphi_4)\beta_k\} \qquad (7)$$

Hence the interpretation of the model is dependent of *both* the βs and the φs. Fortunately, because $\varphi_1 = 1$ and $\varphi_4 = 0$, when making a comparison between the two most "extreme" categories of the dependent variable, equation (7) reduces to:

$$\exp\{(1 - 0)\beta_k\} = e^{\beta_k} \qquad (8)$$

Thus if one wishes to make a comparison between the odds of a respondent selecting, for example, *strongly agree* versus *strongly disagree* when conditioned on an independent variable x_k, all one must do is take the exponentiation of β_k[7].

Finally, note that for each model (1-4) I use robust standard errors. My rationale for using robust standard errors emerges from the assumption that the variance of the error term is constant – an assumption made by both the logistic and stereotype logit models. When data are drawn using multi-stage cluster sampling procedures, there is reason to believe that the variance of the error term may differ across clusters. If the constant error term assumption is violated, the standard errors of the model parameters are likely to be wrong (Raudenbush & Bryk, 2002). Robust standard errors attempt to correct for such violations.

[7] The SLM also changes the valence of the beta-coefficients (Long and Freese, 2006 pp. 280). For ease of interpretation, I reversed the signs for all SLM beta-coefficients to better allow for a comparison between the results of these coefficients and the ones generated by the Logistic model.

Findings: Models 1 & 2 (Logistic Regression Models)

Tables 4.6a – 4.6c report the findings for Models 1 & 2. Note that in Tables 4.6a – 4.6c positive coefficients suggest an improvement in worker self-assessments over time, whereas negative coefficients suggest deterioration.

Satisfaction with Promotion Opportunities

Both Models 1 and 2 suggest workers in the latter years are more likely to positively assess their promotion prospects relative to workers from earlier periods. After a small erosion in worker perceptions of promotion opportunities in the mid- to late-1970s, self-assessments regarding promotion appear to have rebounded and surpassed their baseline (1970) level. Models 1 and 2 suggest workers' perceptions regarding promotion opportunities were rosiest in 1989 and have experienced a slight erosion since. Although the coefficients for 1998 and 2006 are not as strongly positive as those for 1989, they nevertheless suggest workers in these years were more positive regarding their chances for promotion when compared to workers in 1970.

The addition of labor force composition variables in Model 2 does little to attenuate the overall trend over time in worker perceptions of promotion reported in Model 1. Model 2, consistent with Model 1, suggests contemporary workers are more likely to positively assess promotion opportunities when compared to past cohorts.

Satisfaction with Pay

Models 1 and 2 suggest an overall deterioration in worker satisfaction with remuneration relative to 1970. In Model 1 the coefficient for each year dummy (excepting 1973) is both negative and statistically significant. This finding suggests an erosion of worker well-being over time on the pay dimension of self-assessed job quality. Further, my finding of a deterioration in workers' self

Variable	Model 1 Estimate	Robust se	t-value	Model 2 Estimate	Robust se	t-value
1970		**Base Year**			**Base Year**	
1973	.032	.078	.41	-.042	.089	-.47
1977	-.169	.078	-2.16*	-.251	.096	-2.63**
1989	.653	.089	7.30***	.661	.102	6.47***
1998	.609	.090	6.76***	.611	.106	5.78***
2006	.391	.083	4.72***	.450	.107	4.22***
Age				-.050	.015	-3.39***
Age²				.000	.000	1.88
Male		**Reference Category**			**Reference Category**	
Female				-.166	.073	-2.26*
White		**Reference Category**			**Reference Category**	
African American				.087	.100	.87
Other Race				.326	.156	2.09*
L/T High School				-.056	.088	-.63
High School		**Reference Category**			**Reference Category**	
Some College				-.049	.080	-.61
College Grad				.024	.112	.22
G/T College				-.257	.125	-2.06*
Full-Time		**Reference Category**			**Reference Category**	
Part-Time				-.206	.104	-1.99*
Management		**Reference Category**			**Reference Category**	
Prof/Tech				-.251	.125	-.18
Sales				.011	.128	2.66**
Clerical				-.314	.135	-3.71***
Crafts				-.162	.147	-5.78***
Operatives				-.663	.163	-4.78***
Transportation				-.732	.216	-5.05***
Non-Farm Labor				-.083	.229	-4.60***
Farmers				-.401	.206	-7.77***
Farm Labor				-.976	.111	-2.25*
Service				-.479	.145	-.07
Private Household				-.640	.117	-2.69**
L/T 10,000		**Reference Category**			**Reference Category**	
10,000 – 20,000				.023	.117	1.39
20,000 – 30,000				.339	.130	5.09***
30,000 – 40,000				.450	.172	4.25***
40,000 – 50,000				.849	.185	.45
50,000 – 60,000				.778	.331	1.21
60,000 – 70,000				1.07	.424	2.30*
70,000 – 80,000				1.05	.129	3.71***
G/T 80,000				1.60	.423	1.51
Intercept	-.097	.053	-.183	1.25	.314	4.00

Table 4.6a – Logistic Regression Model Results – Promotion Opportunities

Positive coefficients suggest more optimistic assessments of promotion opportunities; Negative coefficients suggest more pessimistic assessments of promotion opportunities.

White is the reference category for race. High school graduate is the reference category for education. Management is the reference category for occupation. Less than $10,000 is the reference category for earnings. Age² a squared term.

**p < .05; **p < .01; ***p < .001(two-tailed tests)*

Variable	Model 1 Estimate	Robust se	t-value	Model 2 Estimate	Robust se	t-value
1970		**Base Year**			**Base Year**	
1973	.126	.090	1.40	-.029	.104	-.28
1977	-.361	.085	-4.27***	-.653	.108	-6.04***
1989	-.720	.092	-7.82***	-.789	.111	-7.11***
1998	-.811	.093	-8.75***	-.920	.115	-7.97***
2006	-.960	.089	-11.03***	-1.12	.117	-9.53***
Age				-.037	.014	-2.59**
Age²				.000	.000	2.31*
Male		**Reference Category**			**Reference Category**	
Female				.185	.080	2.31*
White		**Reference Category**			**Reference Category**	
African American				-.152	.104	-1.47
Other Race				.372	.167	2.23*
L/T High School				-.138	.094	-1.45
High School		**Reference Category**			**Reference Category**	
Some College				-.154	.089	-1.74
College Grad				-.280	.125	-2.25*
G/T College				-.518	.144	-3.59***
Full-Time		**Reference Category**			**Reference Category**	
Part-Time				.034	.109	.31
Management		**Reference Category**			**Reference Category**	
Prof/Tech				-.020	.128	-.16
Sales				-.116	.162	-.72
Clerical				.004	.129	.03
Crafts				-.005	.138	-.03
Operatives				-.052	.143	-.37
Transportation				-.152	.195	-.78
Non-Farm Labor				.340	.207	1.64
Farmers				-1.04	.483	-2.16*
Farm Labor				.268	.461	.58
Service				-.231	.142	-1.62
Private Household				.396	.377	1.05
L/T 10,000		**Reference Category**			**Reference Category**	
10,000 – 20,000				.110	.128	.86
20,000 – 30,000				.715	.133	5.39***
30,000 – 40,000				1.28	.143	8.96***
40,000 – 50,000				1.78	.164	10.88***
50,000 – 60,000				2.55	.203	12.56***
60,000 – 70,000				2.65	.289	9.19***
70,000 – 80,000				3.30	.345	9.56***
G/T 80,000				3.55	.325	10.91***
Intercept	1.01	.060	16.88	1.00	.317	3.17

Table 4.6b – Logistic Regression Model Results – Pay

Positive coefficients suggest more optimistic assessments of pay; Negative coefficients suggest more pessimistic assessments of pay.

White is the reference category for race. High school graduate is the reference category for education. Management is the reference category for occupation. Less than $10,000 is the reference category for earnings. Age² a squared term.

**p < .05; **p < .01; ***p < .001(two-tailed tests)*

Variable	Model 1 Estimate	Robust se	t-value	Model 2 Estimate	Robust se	t-value
1970		**Base Year**			**Base Year**	
1973	.043	.098	.44	-.134	.111	-1.20
1977	-.247	.093	-2.66**	-.426	.115	-3.69***
1989	-.219	.104	-2.11*	-.319	.121	-2.63**
1998	-.501	.101	-4.96***	-.673	.125	-5.55***
2006	-.444	.096	-4.64***	-.453	.017	-3.64***
Age				-.032	.017	-1.84
Age²				.000	.000	1.70
Male		**Reference Category**			**Reference Category**	
Female				.229	.086	2.66**
White		**Reference Category**			**Reference Category**	
African American				-.664	.102	-6.50***
Other Race				-.190	.168	-1.13
L/T High School				-.158	.100	-1.58
High School		**Reference Category**			**Reference Category**	
Some College				.088	.096	.91
College Grad				-.138	.131	-1.05
G/T College				-.109	.153	-.71
Full-Time		**Reference Category**			**Reference Category**	
Part-Time				-.164	.114	-1.44
Management		**Reference Category**			**Reference Category**	
Prof/Tech				.131	.136	.97
Sales				-.180	.164	-1.10
Clerical				.059	.139	.43
Crafts				-.247	.141	-1.75
Operatives				-.252	.149	-1.69
Transportation				.161	.210	.77
Non-Farm Labor				.150	.222	.67
Farmers				-.061	.412	-.15
Farm Labor				.195	.453	.43
Service				.276	.152	1.82
Private Household				-.261	.375	-.70
L/T 10,000		**Reference Category**			**Reference Category**	
10,000 – 20,000				.122	.132	.92
20,000 – 30,000				.574	.138	4.15***
30,000 – 40,000				.859	.152	5.66***
40,000 – 50,000				1.00	.167	6.00***
50,000 – 60,000				1.17	.192	6.08***
60,000 – 70,000				1.22	.270	4.53***
70,000 – 80,000				1.21	.270	4.48***
G/T 80,000				.802	.218	3.67***
Intercept	1.35	.066	20.65	1.64	.369	4.46

Table 4.6c – Logistic Regression Model Results – Job Security

Positive coefficients suggest more optimistic assessments of job security; Negative coefficients suggest more pessimistic assessments of job security..

White is the reference category for race. High school graduate is the reference category for education. Management is the reference category for occupation. Less than $10,000 is the reference category for earnings. Age² a squared term.

**p < .05; **p < .01; ***p < .001(two-tailed tests)*

assessments of the quality of remuneration is robust to the inclusion of labor force composition controls (Model 2) – indeed the inclusion of controls results in more strongly negative coefficients.

Satisfaction with Job Security

The trend in regards to workers' perceptions of job security is unambiguously negative. With the exception of a slight improvement in 2006, both Models 1 and 2 suggest deteriorating sentiments relative to 1970. Further, this finding is robust to the inclusion of the labor force composition variables in Model 2. My findings here suggest a substantial erosion of sentiments of job security over the period under consideration.

Findings: Models 3 & 4 (Stereotype Logit Models)

Tables 4.7a – 4.7c report the results of Models 3 & 4 for worker perceptions of promotion opportunities, pay and job security, respectively. Coefficients in Tables 4.7a – 4.7c should be interpreted in the same way as those presented earlier for the logistic model – positive values indicate more positive self-assessments over time, whereas negative values suggest deterioration.

Satisfaction with Promotion Opportunities

Model 3 suggests workers' self-assessments of promotion opportunities experienced little change over the 1970s. However, workers in the latter three years of the series appear to express more positive self-assessments of future career advancement. Further, there appear to be few differences in opinion between workers drawn from 1989, 1998, or 2006. Indeed, it appears that worker sentiments became more positive sometime between 1977 and 1989, before experiencing stagnation in the 1990s and 2000s. Unfortunately, data on workers' self-assessments of promotion opportunities do not exist for the years 1978-1988 – making an analysis of precisely when workers

Variable	Model 3 Estimate	Robust se	t-value	Model 4 Estimate	Robust se	t-value
1970		**Base Year**			**Base Year**	
1973	.038	.101	.37	-.083	.127	-.66
1977	-.025	.103	-.24	-.228	.139	-1.64
1989	1.76	.153	11.47***	1.89	.174	10.87***
1998	1.70	.150	11.38***	1.84	.178	10.38***
2006	1.78	.145	12.32***	1.93	.200	9.63***
Age				.-.081	.021	-3.86***
Age^2				.001	.000	2.38*
Male		**Reference Category**			**Reference Category**	
Female				-.382	.111	-3.45***
White		**Reference Category**			**Reference Category**	
African American				.069	.149	.47
Other Race				.412	.267	1.54
L/T High School				-.226	.126	-1.88
High School		**Reference Category**			**Reference Category**	
Some College				-.104	.120	-.87
College Grad				-.226	.180	-1.26
G/T College				-.638	.196	-3.26**
Full-Time		**Reference Category**			**Reference Category**	
Part-Time				-.411	.148	-2.78**
Management		**Reference Category**			**Reference Category**	
Prof/Tech				.019	.190	.010
Sales				.108	.239	.45
Clerical				-.132	.191	-.69
Crafts				-.190	.190	-1.00
Operatives				-.716	.201	-3.56***
Transportation				-1.11	.255	-4.35***
Non-Farm Labor				-.083	.276	-.30
Farmers				-.662	.510	-1.30
Farm Labor				-1.22	.591	-2.07*
Service				-.468	.203	-2.31*
Private Household				-1.33	.551	-2.41*
L/T 10,000		**Reference Category**			**Reference Category**	
10,000 – 20,000				.100	.178	.56
20,000 – 30,000				.582	.188	3.09**
30,000 – 40,000				.849	.199	4.26***
40,000 – 50,000				1.47	.225	6.52***
50,000 – 60,000				1.21	.249	4.87***
60,000 – 70,000				1.53	.332	4.59***
70,000 – 80,000				1.80	.402	4.48***
G/T 80,000				2.62	.389	6.74***
φ_{1_1}	1	(Constrained)		1	(Constrained)	
φ_{1_2}	.720	.041	17.61	.759	.034	22.46
φ_{1_3}	.853	.039	21.73	.650	.041	15.82
φ_{1_4}	0	(Base Outcome)		0	(Base Outcome)	
θ_1	-.364	.070	-5.18	1.66	.477	3.47
θ_2	-.151	.064	-2.36	1.46	.361	4.03
θ_3	-.234	.069	-3.40	1.34	.304	4.40
θ_3	0	(Base Outcome)		0	(Base Outcome)	

Table 4.7a – Stereotype Logit Regression Models Results – Promotion Opportunities

Positive coefficients suggest more optimistic assessments of promotion opportunities; Negative coefficients suggest more pessimistic assessments of promotion opportunities.

White is the reference category for race. High school graduate is the reference category for education. Management is the reference category for occupation. Less than $10,000 is the reference category for earnings. Age^2 a squared term.

**p < .05; **p < .01; ***p < .001(two-tailed tests)*

Variable	Model 3 Estimate	Robust se	t-value	Model 4 Estimate	Robust se	t-value
1970		**Base Year**			**Base Year**	
1973	.017	.031	.54	-.079	.131	-.61
1977	-.123	.058	-2.10*	-1.02	.148	-6.89***
1989	-.299	.100	-2.98**	-.997	.144	-6.91***
1998	-.321	.109	-2.95**	-1.16	.150	-7.75***
2006	-.325	.112	-2.90**	-1.30	.154	-8.47***
Age				-.061	.020	-3.05**
Age^2				.001	.000	2.92**
Male		**Reference Category**			**Reference Category**	
Female				.400	.108	3.71***
White		**Reference Category**			**Reference Category**	
African American				-.227	.141	-1.61
Other Race				.487	.219	2.22*
L/T High School				-.064	.128	-.50
High School		**Reference Category**			**Reference Category**	
Some College				-.204	.111	-1.84
College Grad				-.329	.156	-2.11*
G/T College				-.586	.186	-3.15**
Full-Time		**Reference Category**			**Reference Category**	
Part-Time				.055	.146	.38
Management		**Reference Category**			**Reference Category**	
Prof/Tech				-.145	.159	-.91
Sales				-.150	.204	-.74
Clerical				.066	.165	.40
Crafts				.098	.172	.57
Operatives				.040	.183	.22
Transportation				-.023	.257	-.09
Non-Farm Labor				-1.60	.712	-2.25*
Farmers				.546	.267	2.04*
Farm Labor				.374	.618	.60
Service				-.302	.187	-1.62
Private Household				.347	.507	.68
L/T 10,000		**Reference Category**			**Reference Category**	
10,000 – 20,000				.131	.180	.73
20,000 – 30,000				1.04	.202	5.17***
30,000 – 40,000				1.86	.243	7.65***
40,000 – 50,000				2.60	.281	9.24***
50,000 – 60,000				3.64	.339	10.73***
60,000 – 70,000				3.71	.401	9.27***
70,000 – 80,000				4.30	.427	10.06***
G/T 80,000				5.51	.529	10.41***
φ_{1_1}	1	(Constrained)		1	(Constrained)	
φ_{1_2}	.369	.241	1.53	.678	.029	23.23
φ_{1_3}	-3.11	1.29	-2.41	.141	.061	2.31
φ_{1_4}	0	(Base Outcome)		0	(Base Outcome)	
θ_1	1.19	.066	18.13	1.49	.426	3.51
θ_2	1.13	.061	18.47	1.57	.293	5.37
θ_3	.242	.085	2.86	.991	.101	9.82
θ_3	0	(Base Outcome)		0	(Base Outcome)	

Table 4.7b – Stereotype Logit Regression Models Results – Pay

Positive coefficients suggest more optimistic assessments of pay; Negative coefficients suggest more pessimistic assessments of pay.

White is the reference category for race. High school graduate is the reference category for education. Management is the reference category for occupation. Less than $10,000 is the reference category for earnings. Age^2 a squared term.

**p < .05; **p < .01; ***p < .001(two-tailed tests)*

outlooks began to improve impossible. The addition of control variables (Model 4) has little impact on the interpretation of the results. The post-1977 improvement in worker attitudes concerning promotion opportunities appears to be robust to the inclusion of controls.

Satisfaction with Pay

Model 3 suggests worker satisfaction with pay has trended in the direction of pessimism since 1973. While workers in 1973 were no more, or less, likely to express positive sentiments of pay than were workers in 1970, workers drawn from later years are noticeably more pessimistic. Indeed, self-assessed satisfaction with pay exhibits a monotonically negative trend post-1973. This finding strongly suggests workers drawn from later years express greater dissatisfaction with pay than do their accord-era counterparts. Not only do the inclusion of controls (Model 4) fail to attenuate the findings for Model 3, they actually amplify the magnitude of the trend. Thus, after the effects of changes in labor force composition are controlled for, Model 4 suggests that contemporary workers pessimism runs deeper than what is suggested by Model 3. What is particularly interesting is that Model 4 includes controls for reported earnings. Hence, even after taking into account a measure of actual pay, workers in the era of flexible production express less subjective satisfaction with pay than do their accord-era counterparts. Hence there is reason to believe that worker sentiments may have deteriorated over the period in question net of changes in the actual distribution of earnings. In other words, flexible production workers were less likely to positively self-assess on the pay variable vis-à-vis accord-era workers, *even in cases where (inflation adjusted) earnings were similar*. I return to an explanation of this curious finding in Chapter 7.

Variable	Model 3 Estimate	Robust se	t-value	Model 4 Estimate	Robust se	t-value
1970		**Base Year**			**Base Year**	
1973	-.051	.072	-.70	-.121	.106	-1.14
1977	-.466	.075	-6.23***	-.635	.118	-5.38***
1989	-1.05	.103	-10.29***	-1.32	.129	-10.26***
1998	-1.21	.129	-9.38***	-1.60	.150	-10.67***
2006	-1.01	.120	-8.37***	-1.28	.149	-8.58***
Age				-.026	.018	-1.40
Age^2				.001	.000	2.05*
Male		**Reference Category**			**Reference Category**	
Female				.266	.093	2.85**
White		**Reference Category**			**Reference Category**	
African American				-.751	.163	-4.61***
Other Race				-.294	.200	-1.47
L/T High School				.013	.109	.12
High School		**Reference Category**			**Reference Category**	
Some College				.015	.098	.15
College Grad				-.084	.133	-.63
G/T College				-.043	.152	-.28
Full-Time		**Reference Category**			**Reference Category**	
Part-Time				-.208	.134	-1.55
Management		**Reference Category**			**Reference Category**	
Prof/Tech				-.082	.130	-.63
Sales				-.334	.178	-1.88
Clerical				.261	.143	1.83
Crafts				-.136	.143	-.95
Operatives				-.221	.165	-1.34
Transportation				-.002	.206	-.01
Non-Farm Labor				-.188	.239	-.79
Farmers				-.003	.452	-.01
Farm Labor				-.001	.504	-.00
Service				.372	.161	2.31*
Private Household				-.709	.525	-1.35
L/T 10,000		**Reference Category**			**Reference Category**	
10,000 – 20,000				-.115	.172	-.67
20,000 – 30,000				.332	.185	1.79
30,000 – 40,000				.738	.202	3.65***
40,000 – 50,000				.916	.223	4.10***
50,000 – 60,000				.972	.241	4.04***
60,000 – 70,000				1.17	.288	4.07***
70,000 – 80,000				1.06	.295	3.58***
G/T 80,000				.866	.266	3.26**
φ_{1_1}	1	(Constrained)		1	(Constrained)	
φ_{1_2}	-.182	.110	-1.66	.213	.074	2.88
φ_{1_3}	.093	.107	.86	.154	.077	2.00
φ_{1_4}	0	(Base Outcome)		0	(Base Outcome)	
θ_1	1.76	.072	24.41	1.84	.399	4.61
θ_2	1.01	.074	13.55	1.37	.120	11.45
θ_3	.149	.084	1.76	.232	.108	2.14
θ_3	0	(Base Outcome)		0	(Base Outcome)	

Table 4.7c – Stereotype Logit Regression Models Results – Job Security

Positive coefficients suggest more optimistic assessments of job security; Negative coefficients suggest more pessimistic assessments of job security.

White is the reference category for race. High school graduate is the reference category for education. Management is the reference category for occupation. Less than $10,000 is the reference category for earnings. Age^2 a squared term.

**p < .05; **p < .01; ***p < .001(two-tailed tests)*

Satisfaction with Job Security

The trend in regards to workers' perception of job security is clearly negative. Model 3 suggests that satisfaction with job security steadily deteriorated until 1998, before recovering slightly in 2006. Note that signs of creeping pessimism are evident as early as 1977. This possibly suggests that workers' assessments of job security began to sour prior to worker sentiments regarding pay. A modest improvement in self-assessments of job security appears to have occurred in the final year of the series, however sentiments of job security nevertheless remain more pessimistic than those recorded for the 1970s. The addition of controls does very little to alter these results. Both Models 3 and 4 suggest contemporary workers are less likely to express satisfaction with job security than were their accord-era counterparts. I provide a summary of my overall findings below.

Summary of Findings

My findings suggest contemporary workers confer more negative assessments to the material rewards accruing from work on two out of three domains. This finding is largely consistent with the pessimistic account of workplace transformation. Further, my results regarding worker perceptions of job security (the only perceptual domain having received substantial scholarly attention) are consistent with prior research. The major exception to the trend concerns workers apparent increased optimism regarding promotion opportunities. Table 4.8 summarizes these findings.

Dependent Variable	Trend in Worker Assessments of the Material Rewards Associated with Work (relative to 1970)
Promotion	More Positive
Pay	More Negative
Job Security	More Negative

Table 4.8 – Summary of Chapter 4 Findings

I will return to a discussion of these findings in Chapter 7. Next, however, I will focus my attention on trends in worker self-assessments of intrinsic rewards and autonomy. The following chapter repeats the analysis performed above, using measures of psychic well-being in lieu of material satisfaction.

Appendix 4.1

An Alternative Model Specification – The Ordered Probit Model

As noted in the main text of Chapter 4, the ordered probit is a commonly used method for modeling ordinal dependent variables. However, the ordered probit model also makes assumptions that have been shown to be frequently violated in practice. In this appendix I will provide a description of the ordered probit model and assess the extent to which models constructed with my data violate model assumptions.

In the linear regression model (OLS) the relationship between the observed (independent) variables (x_i) and dependent variables (y_i) can be summarized as:

$$y_i = \boldsymbol{x_i\beta} + \varepsilon_i \quad \textbf{(1)}$$

However, the ordinal regression model commonly treats the dependent variable as a latent variable capable of taking values from -∞ to ∞. Hence by defining my measures of subjective job quality as latent (y^*_i), the ordinal regression model can be summarized as:

$$y_i^* = \boldsymbol{x_i\beta} + \varepsilon_i \quad \textbf{(2)}$$

Categorical estimates for each observation, conditioned on a vector of observed covariates, can be generated by observing where an estimate of the latent variable (y^*_i) falls relative to cutpoints (τ). To illustrate, recall that my dependent variables are defined categorically with y=1 corresponding to the most negative, and y=4 reflecting the most positive, possible responses. Hence, I have J = 4 categorical outcomes. Observation y_i, conditioned on $\mathbf{x_i}$, can be estimated to belong to category j if:

$$\tau_{j-1} \leq y_i^* \leq \tau_j \quad \textbf{(3)}$$

The latent variable (y^*_i) can be thought of as the propensity for an individual's perceptions to reflect positively, or negatively, towards a particular aspect of job quality. The four-category model can thus be summarized as:

$$\begin{aligned} y_i = 1 \rightarrow \text{Most Negative } if\ \tau_0 = -\infty \leq y_i^* < \tau_1 \\ y_i = 2 \rightarrow \quad if\ \tau_1 \leq y_i^* < \tau_2 \\ y_i = 3 \rightarrow \quad if\ \tau_2 \leq y_i^* < \tau_3 \\ y_i = 4 \rightarrow \text{Most Positive} \quad if\ \tau_3 \leq y_i^* < \tau_4 = \infty \end{aligned} \qquad \textbf{(4)}$$

Long and Freese (2006) show that the probability the ordered probit model assigns any observation y_i to category j, conditioned on observed covariates $\mathbf{x_i}$ can be summarized as:

$$\Pr(y = j|\boldsymbol{x}) = \Phi(\left(\tau_j - \boldsymbol{x\beta}\right) - \Phi\tau_{j-1} - \boldsymbol{x\beta}) \qquad \textbf{(5)}$$

Where Φ is the normally distributed cumulative density function with variance = 1 (Long & Freese, 2006).

I construct two ordered probit models for each dependent variable. Model A1 regresses worker perceptions of material well-being at work on a set of dummy variables indicating the year from which each observation was drawn. Model A2 is an extension of Model A1 in which a vector of control variables (see pp. 98-99) are included. In both models, I define the baseline year as 1970 – the earliest year from which I have data, and the closest year to the post-war accord-era. Recall that my measures of worker perceptions are defined on a scale of one to four, where 1 indicates the most negative, and 4 indicates the most positive response. Hence, in my ordered probit models, positive coefficient estimates on year dummy variables suggests movement towards more positive responses in worker self-assessments compared to the base year of 1970. Conversely, negative coefficient estimates suggest a deterioration in worker perceptions relative to the baseline year.

Assessing Models A1 & A2: The Parallel Regression Assumption

The ordered probit model can be shown to be equivalent to J – 1 binary probit regressions in which the slope coefficients are assumed to be identical across regressions (Long & Freese, 2006). To illustrate, equation (**5**) can be re-written as:

$$\begin{aligned} \Pr(y \leq 1 \mid \boldsymbol{x}) &= \Phi(\tau_1 - \beta x) \\ \Pr(y \leq 2 \mid \boldsymbol{x}) &= \Phi(\tau_2 - \beta x) \\ \Pr(y \leq 3 \mid \boldsymbol{x}) &= \Phi(\tau_3 - \beta x) \end{aligned} \qquad \textbf{(6)}$$

Note that (**6**) assumes the β coefficients are identical for each of the (J – 1) equations. Unfortunately, the assumption of uniform beta coefficients across binary regression models – otherwise known as the parallel regression assumption – rarely holds in practice. In order to assess the extent to which Models 1 & 2 violate the parallel regression assumption I will compare the beta coefficients generated from the ordered probit model to (J – 1) binary regressions where the βs are free to differ. In practice, this is accomplished using a likelihood-ratio test. The likelihood-ratio test compares the log likelihood from the ordered probit model to that obtained from (J – 1) binary regression models. This test is distributed as X^2 and the null hypothesis is equality of beta coefficients for each of the (J – 1) equations in (**6**) – hence likelihood-ratio tests generating large values of X^2 suggest a violation of the parallel regression assumption.

Table A4.1 reports the results of the likelihood-ratio tests. Note that for each model of worker well-being the likelihood-ratio tests suggest a violation of the parallel regression assumption. In no case, is the X^2 generated by the likelihood-ratio tests sufficiently small so as to warrant a conclusion of constant beta coefficients across categories. Because the likelihood-ratio tests suggests the Ordered Probit Model is in violation of the parallel regression assumption when applied to my data, I elected to apply the Stereotype Logit Model (SLM) in its stead. SLM – like the Ordered Probit Model – is

appropriate for ordinal dependent variables (see pp. 102-104). However, the SLM does not rely on the parallel regression assumption and, hence, is arguably the better model in this case. In any case, for the sake of comparison and comprehensiveness, I report the results from the Ordered Probit Model below.

Dependent Variable	$X^2(68)$	Prob > X^2
Promotion Opportunities	273.71	.000***
Pay	371.22	.000***
Job Security	293.05	.000***

Table A4.1 – Likelihood-Ratio Tests of the Parallel Regression Assumption (Model A2)
Large values of X^2 suggest violations of the parallel regression assumption.
*$p < .05$; **$p < .01$; ***$p < .001$*

Findings: Models A1 & A2 (Ordered Probit Models)

Tables A4.2 – A4.4 report the findings for Models A1 & A2. Note that in Tables A4.2 – A4.4 positive coefficients suggest an improvement in worker self-assessments over time whereas negative coefficients suggest deterioration.

Satisfaction with Promotion Opportunities:

Both Models A1 and A2 suggest workers in the latter years are more likely to positively assess their promotion prospects relative to workers from earlier periods. After a small erosion in worker perceptions of promotion opportunities in the mid- to late-1970s self-assessments regarding promotion appear to have rebounded and surpassed their baseline (1970) level. Models A1 and A2 suggest workers' perceptions regarding promotion opportunities were rosiest in 1989 and have experienced a slight erosion since. Although the coefficients for 1998 and 2006 are not as strongly positive as that for 1989 they nevertheless suggest workers in these years are more optimisitic regarding their chances for promotion when compared to workers in 1970.

Variable	Model 1 Estimate	Robust se	t-value	Model 2 Estimate	Robust se	t-value
1970		**Base Year**			**Base Year**	
1973	-.011	.045	-.24	-.048	.050	-.96
1977	-.108	.044	-2.47*	-.154	.051	-3.02***
1989	.511	.047	10.81***	.533	.053	10.14***
1998	.454	.046	9.90***	.480	.052	9.16***
2006	.451	.045	9.92***	.510	.055	9.20***
Age				-.029	.008	-3.59***
Age²				.000	.000	1.95
Male		**Reference Category**			**Reference Category**	
Female				-.131	.038	-3.49***
White		**Reference Category**			**Reference Category**	
African American				.054	.054	1.00
Other Race				.177	.081	2.19*
L/T High School				-.073	.048	-1.53
High School		**Reference Category**			**Reference Category**	
Some College				-.037	.041	-.91
College Grad				-.044	.056	-.78
G/T College				-.189	.063	-2.98**
Full Time		**Reference Category**			**Reference Category**	
Part-Time				-.169	.052	-3.24**
Managerial		**Reference Category**			**Reference Category**	
Prof/Tech				-.073	.056	-1.31
Sales				.034	.076	.45
Clerical				-.109	.061	-1.80
Crafts				-.080	.061	-1.30
Operatives				-.336	.067	-4.98***
Transportation				-.444	.090	-4.91***
Non-Farm Labor				-.055	.093	-.59
Farmers				-.228	.197	-1.16
Farm Labor				-.494	.263	-1.88
Service				-.221	.067	-3.28***
Private Household				-.559	.229	-2.44*
L/T 10,000		**Reference Category**			**Reference Category**	
10,000 – 20,000				-.005	.067	-.08
20,000 – 30,000				.165	.068	2.41*
30,000 – 40,000				.270	.072	3.73***
40,000 – 50,000				.481	.079	6.12***
50,000 – 60,000				.399	.086	4.66***
60,000 – 70,000				.505	.107	4.70***
70,000 – 80,000				.579	.119	4.48***
G/T 80,000				.831	.103	8.09***
τ_1	-.818	.033		-.072	.169	
τ_2	-.113	.033		.685	.169	
τ_3	.653	.033		1.51	.171	

Table A4.2 – Ordered Probit Model Results – Promotion Opportunities

Positive coefficients suggest more optimistic assessments of promotion opportunities; Negative coefficients suggest more pessimistic assessments of promotion opportunities.

White is the reference category for race. High school graduate is the reference category for education. Management is the reference category for occupation. Less than $10,000 is the reference category for earnings. Age² a squared term.

**p < .05; **p < .01; ***p < .001(two-tailed tests)*

Variable	Model 1 Estimate	Robust se	t-value	Model 2 Estimate	Robust se	t-value
1970		**Base Year**			**Base Year**	
1973	.036	.045	.80	-.031	.050	-.62
1977	-.268	.044	-6.15***	-.388	.052	-7.44***
1989	-.292	.046	-6.31***	-.283	.052	-5.41***
1998	-.336	.047	-7.20***	-.337	.055	-6.16***
2006	-.375	.046	-8.14***	-.372	.057	-6.51***
Age				-.027	.008	-3.57***
Age^2				.000	.000	3.54***
Male		**Reference Category**			**Reference Category**	
Female				.162	.039	4.13***
White		**Reference Category**			**Reference Category**	
African American				-.104	.053	-1.96*
Other Race				.163	.081	2.01*
L/T High School				-.018	.048	-.38
High School		**Reference Category**			**Reference Category**	
Some College				-.073	.041	-1.78
College Grad				-.111	.055	-2.00*
G/T College				-.198	.065	-3.07**
Full-Time		**Reference Category**			**Reference Category**	
Part-Time				.023	.055	.42
Management		**Reference Category**			**Reference Category**	
Prof/Tech				-.070	.056	-1.24
Sales				-.037	.073	-.50
Clerical				.045	.061	.73
Crafts				.065	.061	1.06
Operatives				.047	.069	.68
Transportation				.005	.097	.05
Non-Farm Labor				-.654	.238	-2.75**
Farmers				.239	.096	2.49*
Farm Labor				.134	.261	.51
Service				-.114	.070	-1.64
Private Household				.093	.203	.46
L/T 10.000		**Reference Category**			**Reference Category**	
10,000 – 20,000				.053	.067	.79
20,000 – 30,000				.425	.069	6.12***
30,000 – 40,000				.765	.073	10.53***
40,000 – 50,000				1.04	.082	12.77***
50,000 – 60,000				1.39	.089	15.64***
60,000 – 70,000				1.41	.111	12.69***
70,000 – 80,000				1.56	.118	13.22***
G/T 80,000				1.94	.124	15.73***
τ_1	-.293	.031		-.465	.163	
τ_2	.563	.032		.498	.163	
τ_3	1.42	.037		1.47	.165	

Table A4.3 – Ordered Probit Model Results – Pay

Positive coefficients suggest more optimistic assessments of pay; Negative coefficients suggest more pessimistic assessments of pay.

White is the reference category for race. High school graduate is the reference category for education. Management is the reference category for occupation. Less than $10,000 is the reference category for earnings. Age^2 a squared term.

**p < .05; **p < .01; ***p < .001(two-tailed tests)*

Variable	Model 1 Estimate	Robust se	t-value	Model 2 Estimate	Robust se	t-value
1970		**Base Year**			**Base Year**	
1973	.005	.048	.10	-.060	.053	-1.13
1977	-.228	.046	-4.98***	-.281	.054	-5.24***
1989	-.420	.047	-8.90***	-.467	.053	-8.79***
1998	-.550	.048	-11.50***	-.609	.055	-10.98***
2006	-.498	.047	-10.61***	-.500	.058	-8.69***
Age				-.014	.008	-1.78
Age²				.000	.000	2.09*
Male		**Reference Category**			**Reference Category**	
Female				.115	.039	2.96**
White		**Reference Category**			**Reference Category**	
African American				-.369	.052	-7.08***
Other Race				-.121	.077	-1.57
L/T High School				-.044	.049	-.89
High School		**Reference Category**			**Reference Category**	
Some College				.015	.042	.36
College Grad				-.062	.057	-1.10
G/T College				-.062	.065	-.95
Full-Time		**Reference Category**			**Reference Category**	
Part-Time				-.085	.054	-1.57
Management		**Reference Category**			**Reference Category**	
Prof/Tech				.006	.057	.10
Sales				-.117	.073	-1.60
Clerical				.113	.062	1.81
Crafts				-.092	.064	-1.44
Operatives				-.139	.071	-1.95
Transportation				.031	.091	.34
Non-Farm Labor				-.015	.097	-.15
Farmers				-.033	.210	-.16
Farm Labor				.039	.223	.17
Service				.160	.070	2.28*
Private Household				-.250	.192	-1.30
L/T 10,000		**Reference Category**			**Reference Category**	
10,000 – 20,000				-.014	.067	-.21
20,000 – 30,000				.206	.069	2.98**
30,000 – 40,000				.385	.074	5.24***
40,000 – 50,000				.478	.079	6.01***
50,000 – 60,000				.525	.086	6.09***
60,000 – 70,000				.622	.111	5.61***
70,000 – 80,000				.565	.113	5.02***
G/T 80,000				.429	.104	4.11***
τ_1	.001	.033		.014	.169	
τ_2	.965	.036		1.04	.170	
τ_3	1.47	.038		1.55	.170	

Table A4.4 – Ordered Probit Model Results – Job Security

Positive coefficients suggest more optimistic assessments of job security; Negative coefficients suggest more pessimistic assessments of job security.

White is the reference category for race. High school graduate is the reference category for education. Management is the reference category for occupation. Less than $10,000 is the reference category for earnings. Age² a squared term.

**p < .05; **p < .01; ***p < .001(two-tailed tests)*

The addition of labor force composition variables in Model A2 does little to attenuate the overall trend over time in worker perceptions of promotion reported in Model A1. Model A2, consistent with Model A1, suggests contemporary workers are more likely to positively assess promotion opportunities when compared to past cohorts.

Satisfaction with Pay

Models A1 and A2 suggest an overall deterioration in worker satisfaction with remuneration relative to 1970. Although this trend is non-monotonic, the coefficient on each year dummy is both negative and statistically significant. This finding suggests an erosion of worker well-being over time on the pay dimension of self-assessed job quality. Furthermore, my finding of a deterioration in workers' self-assessments of the quality of remuneration is robust to the inclusion of labor force composition controls (Model A2).

Satisfaction with Job Security

The trend in regards to workers' perceptions of job security is unambiguously negative. With the exception of a slight improvement in 2006 Models A1 and A2 suggest the trend in workers' perceptions of job security, relative to 1970, is monotonic. This finding suggests a substantial erosion of worker well-being in this domain. This finding is robust to the inclusion of the labor force composition variables in Model A2. However, many of these compositional variables are themselves strongly associated with worker self-assessments of job security.

Chapter 5

Psychic Well-Being – Worker Satisfaction with Intrinsic Rewards and Job Autonomy

In this chapter I will focus on trends in workers' subjective perceptions of the degree to which their jobs provide both autonomy and intrinsic satisfaction. The exploratory factor analysis presented earlier suggests autonomy and intrinsic rewards load on a single underlying latent factor (see Figure 3.1, pp. 72). Both autonomy and intrinsic rewards can reasonably be conceptualized as domains of worker well-being pertaining to the psychic benefits of work. Psychic benefits of work are distinct from the material rewards discussed in the previous chapter in that 1) they are non-pecuniary in nature and 2) refer explicitly to the emotional satisfaction conferred by the nature of the work itself. Satisfaction with autonomy suggests a worker feels some degree of control over his daily routine, whereas intrinsic rewards refer to the satisfaction he feels from the actual act of performing work. A large volume of prior scholarship suggests psychic rewards are equally important (or, in some cases, more important) to material rewards in terms of workers' overall feelings of well-being (e.g. Benz & Frey, 2008; Nguyen et al, 2003; Clark, 2001). Because my measures for worker perceptions of autonomy and intrinsic rewards are conceptually and empirically (as suggested by my exploratory factor analysis) similar, I will analyze the psychic rewards to work separately from other domains of job satisfaction.

Satisfaction with Intrinsic Rewards

Figure 5.1 displays the percentage of respondents selecting either of the two most positive categories for the intrinsic rewards variable, as well as 95% confidence intervals. As is evident from Figure 5.1, most respondents selected one of the two most

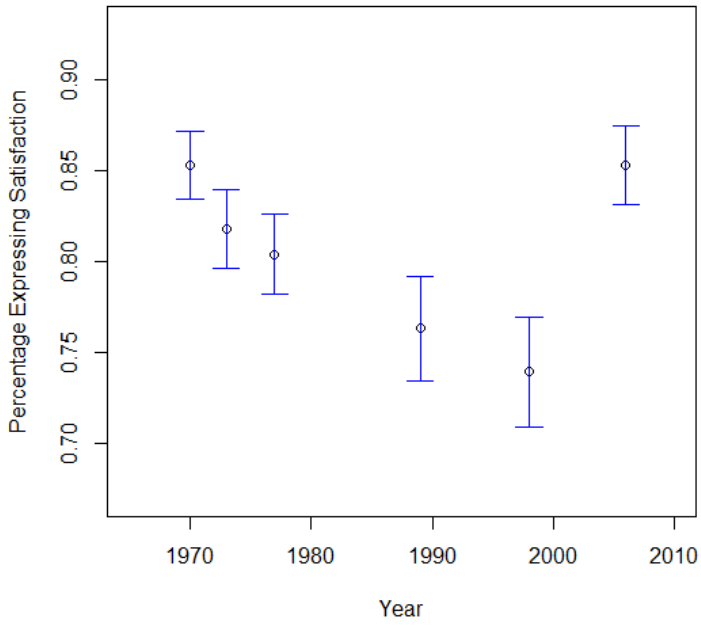

Figure 5.1 – Percent of Respondents Selecting either of the two Most Positive Responses to the Intrinsic Rewards Questions
Data from 1970 is drawn from the Survey of Working Conditions (Quinn, Seashore & Mangione, 1975), data from 1973 & 1977 are drawn from the Quality of Employment Survey (Quinn & Stains, 1984), data from 1989, 1998 & 2006 are drawn from the General Social Survey (Davis, Smith and Marsden, 2009)
See Appendix 3.1 (pp. 75-76) for details on the categories of the intrinsic rewards question for each year.
Vertical bars indicate 95% confidence intervals

positive categories in each of the six years under consideration. While the majority expressed positive assessments of intrinsic rewards irrespective of year, respondent satisfaction appears to have suffered a slight decline in 1989 and 1998. During the labor-capital accord years (1970-1977) roughly 80.4% of survey respondents claimed satisfaction with intrinsic rewards. Yet in 1989, and 1998, the percentage of workers satisfied with intrinsic rewards dipped into the mid-seventies. By 2006, however, respondent satisfaction with intrinsic rewards appears to have returned to its earlier levels. The improvement in worker sentiments in the final year of analysis complicates the interpretation of this trend somewhat. On the one hand, a steady deterioration in sentiments is evident in Figure 5.1 over the period 1970-1998. This could potentially suggest that the transition to flexible production

exerted a negative effect on workers self-assessments of intrinsic rewards. On the other hand, the return to 1970s levels of satisfaction in 2006 possibly suggests that, in more recent years, flexible production has been capable of generating the types of employment relations that encourage intrinsically rewarding work. Despite this complication, I will use the same three-year average technique I used in the previous chapter as a means to assess differences in opinions between accord-era workers and flexible production workers. On average, 82.5% of accord-era (1970-1977) workers expressed a positive self-assessment of intrinsic rewards, whereas the average positive response rate among flexible production workers is 78.5%. Hence, when one averages over the three years associated with the labor-capital accord-era and the flexible production era, respectively, one concludes that self-assessments in the latter era were 4% lower than in the earlier era. Further, a difference in proportions test (see pp. 86) reveals this gap to be statistically significant at the .001 level. This suggests that the declines in positive self-assessments of intrinsic rewards occurring in 1989 and 1998 were so steep as to overwhelm the effect of rising sentiments in 2006. Hence, when taken as a whole, workers drawn from the flexible production group may express slightly more negative self-assessments of intrinsic rewards when compared to their accord-era counterparts.

Table 5.1 displays the percentage of workers positively assessing intrinsic work rewards, broken down by sex, race, educational attainment, age, earnings, and occupational status. There appears to be few differences between men's and women's subjective assessments of intrinsic rewards. While men hold a slight (3.6%) advantage in the proportion of workers positively assessing intrinsic rewards, this gap closes to near parity by 1973. However, the three-year average decline in sentiments among men appears to be slightly greater than that for women. Flexible production-era men are, on average, 5.2% less likely than their accord-era counterparts to positively self-assess on the intrinsic rewards variable. The comparable decline among women stands at 2.9%. This difference

(Intrinsic Rewards)	1970	1973	1977	1989	1998	2006
Sex						
Men	86.6	82.3	79.4	75.3	71.9	85.7
Women	83.0	81.0	82.1	77.4	75.1	84.9
Race						
White	86.1	82.6	81.1	78.0	76.2	87.8
African American	78.4	79.3	74.8	63.1	61.7	77.3
Education						
L/T H.S.	81.5	75.4	74.7	55.4	68.4	80.0
H.S. Grad	85.6	81.5	78.1	74.9	65.7	83.4
Some College	86.1	80.1	83.0	77.5	76.4	83.2
College Grad	93.5	91.3	86.0	85.8	78.4	90.7
G/T College	90.6	100	91.8	88.0	86.5	91.7
Age						
L/T 28	78.4	73.5	72.1	66.5	66.7	77.0
28 – 49	89.3	86.8	84.2	79.2	74.3	86.5
49 +	85.5	84.1	84.5	79.1	78.4	87.2
Earnings						
L/T $20,000	76.7	72.0	76.6	63.5	65.4	77.4
$20,000 - $40,000	86.2	78.8	75.4	75.7	70.2	82.8
$40,000 - $60,000	87.6	84.1	81.0	87.2	79.1	89.4
G/T $60,000	88.8	87.5	82.9	84.5	82.9	90.9
Occupation						
Blue-Collar	83.0	73.6	71.6	67.2	65.3	82.6
White-Collar	93.6	95.1	92.1	86.7	81.0	91.4
Clerical	84.6	80.1	78.3	73.3	72.4	84.2
Service	76.5	79.1	82.5	59.1	64.8	75.4

Table 5.1 – Percentage of Respondents Selecting either of the two Most Positive Responses to the Intrinsic Rewards Questions

Data from 1970 is drawn from the Survey of Working Conditions (Quinn, Seashore & Mangione, 1975), data from 1973 & 1977 are drawn from the Quality of Employment Survey (Quinn & Stains, 1984), data from 1989, 1998 & 2006 are drawn from the General Social Survey (Davis, Smith and Marsden, 2009)

See Appendix 3.1 (pp. 75-76) for details on the categories of the intrinsic rewards question for each year.

Occupational categories were constructed using the 1980 Census occupational classification system. White-collar workers include those employed in managerial, professional or technical occupations. Blue-collar workers are employed in craft or operative occupations.

between men's and women's deterioration in self-assessments across the two periods is statistically significant at the .05 level. Thus it appears that the overall decline in self-assessments of intrinsic rewards (weakly) suggested by Figure 5.1 reflects a worsening of opinion among men more so than among women[1].

Whites consistently report higher satisfaction with intrinsic rewards when compared to African-Americans. Indeed the percentage of white respondents providing a positive assessment averaged over all six years of data (82%) is nearly 10 points higher than the corresponding average among African-Americans (74.2%). Further, over-time sentiments regarding intrinsic rewards appear to have deteriorated more rapidly among African-Americans. Approximately 78% of accord-era African-Americans expressed satisfaction with intrinsic rewards. The corresponding percentage among accord-era whites was 83.3%. However, the three-year average for flexible production African-Americans fell to 67.4% - a decline of 10.1%. Sentiments regarding intrinsic rewards also fell among whites, but only by 2.6%. A difference in differences test reveals the gap (7.5%) between the deterioration in sentiments among whites and African-Americans to be statistically significant at the .001 level. Hence, it appears that the over-time decline in self-assessments of intrinsic rewards was more dramatic for African-Americans than for whites.

In general, higher levels of educational attainment appear to be associated with more positive self-assessments of intrinsic rewards at work. This is particularly the case among the highly educated (those with college degrees and post-graduate educations), whose rates of satisfaction surpass 90% in several years. However, the across-time trend in satisfaction with intrinsic rewards mirrors the trends discussed above. Self-assessments of satisfaction with intrinsic rewards appear decline in 1989

[1] See Ch. 4 pp. 80-81 for a description the "difference in differences" technique used to assess whether different groups of workers experienced the transition to flexible production differently.

and 1998 for all categories of educational attainment. Yet, this dip appears to be particularly precipitous among those with less than a high school education. Indeed, the percentage of workers with less than a high school education whom express a positive opinion regarding the degree to which their job is intrinsically meaningful drops to 55.4% in 1989. This drop constitutes a 26.1% decline in the proportion of workers positively self-assessing on the intrinsic rewards variable. The comparable decline in the proportion of workers holding positive self-assessments of intrinsic rewards among the college educated is, a considerably lower, 7.7%. However, the three-year averages for accord-era high school graduates, and college graduates, stand at 81.7% and 90.3%, respectively. Among flexible production workers, three-year satisfaction rates decline to 74.7% for high school graduates and 85.0% for college graduates – a drop in satisfaction of 7.0% for high school graduates, and 5.3% for college graduates. The difference between high school-, and college-educated, workers decline in self-assessed satisfaction is, however, not statistically significant. Hence, when the data are disaggregated by "era", there is little reason to believe the experiences of high school graduates and college graduates differed much over time.

Young workers (less than 28 years old) appear to be more dissatisfied with intrinsic rewards than their older counterparts. However, there are few differences between 28 – 49 year-old workers and those older than 49. The trend in intrinsic rewards, broken down by age category, is similar to the general trend presented above. Worker satisfaction with intrinsic rewards appears to be lower in 1989 and 1998 for all three age categories. However, all age groups experienced an increase in the percentage of respondents reporting satisfaction with intrinsic rewards in 2006. When broken down into three-year averages, 74.7% of young (18-28) workers drawn from the accord years (1970, 1973, 1977) express satisfaction with intrinsic rewards. The corresponding percentage for older (49+) accord-era workers is 84.7%. On the other hand, the three-year averages for flexible production workers are 70.1%, and 81.6%, for younger, and older, workers respectively. Hence, younger

workers were 4.6% less likely to positively self-assess on the intrinsic rewards variable in the era of flexible production than were accord-era workers. The corresponding decline in sentiments among older workers was 3.1% - a drop that is not statistically different from the over-time decline among younger workers. Hence, it appears that younger, and older, workers' experienced the transition to flexible production in a similar fashion – at least in terms of self-assessments of intrinsic rewards.

Low earners (those earning less than $40,000 annually) express more dissatisfaction with intrinsic rewards than do those with higher earnings. Dissatisfaction is even more pronounced among workers earning less than $20,000 a year. Among higher earners ($40,000+/year), satisfaction with intrinsic rewards is quite common. The proportion of higher earners expressing satisfaction falls below 80% only once in the six-year series (and only for workers earning between $40,000 and $60,000/year). However, trends in intrinsic rewards appear to differ among earnings categories. For example, there is very little movement in the percentage of workers positively self-assessing on the intrinsic rewards variable in the top two earnings categories. On the other hand, workers with low earnings exhibit greater dissatisfaction with intrinsic rewards in 1989, and 1998, than they did in the 1970s. Indeed, the percentage of workers expressing dissatisfaction with intrinsic rewards was 13.2% higher in 1989 than in 1970 among the lowest earning workers. In contrast, the highest two earnings categories experienced only a negligible deterioration in positive self-assessments over the period 1970 – 1989. Indeed, among high ($60,000+) earners, three-year average positive self-assessment rates for the flexible production group were only .3% lower than those observed for the labor-capital accord group. The corresponding decline in sentiments among low earners, however, stands at 6.3%. A difference in differences test reveals the gap (6.0%) between the deterioration in sentiments for high- and low-earners is statistically significant at the .001 level. This suggests growing pessimism among low earners may be partially responsible for generating the aggregate declines presented in Figure 5.1.

White-collar workers appear to be more satisfied with intrinsic rewards than are workers drawn from other occupational groups. Indeed, the percentage of white-collar workers expressing positive assessments of intrinsic rewards never falls below 80%, and often exceeds 90%. Clerical workers also express a good deal of satisfaction with intrinsic rewards – the proportion of workers positively assessing intrinsic rewards for this group never falls below 70%. However, blue-collar and service workers are decidedly more negative in their assessments. Rates of satisfaction among these groups tend to be 10-20 points lower than for white-collar workers. Yet all occupational groups appear to suffer a deterioration in the percentage of workers expressing positive assessments of intrinsic rewards in 1989 and 1998 – although positive assessments return to their 1970s levels in 2006. Further, the rate of decline appears to be similar across occupational categories of workers. For example, the three-year average positive self-assessment rates were 76.1% for accord-era-, and 68.8% for flexible production, blue-collar workers – a decline of 7.3%. Among white-collar workers, three-year averages stand at 93.6% for the accord group and 86.4% for the flexible production group – a drop of 7.2%. A difference in differences test reveals that the percentage decline across the two "eras" is not statistically significant for blue- and white-collar workers. Hence the available data suggest that sentiments of intrinsic rewards deteriorated similarly across these two occupational groups.

Satisfaction with Autonomy

Figure 5.2 shows the percentage of workers selecting either of the two most positive responses for the autonomy variable for all six years of data – 95% confidence intervals are included to indicate uncertainty. Satisfaction with the degree to which one's job confers autonomy is consistently high – the proportion of workers expressing dissatisfaction with autonomy never exceeds 30%. Further, the across-time trend exhibits stability – there is very little movement (up or down) in the percentage of

workers positively self-assessing autonomy over time. A noticeable decline in worker satisfaction is observed in 1977, however positive self-assessments of autonomy return to (and even exceed) their 1970s levels in the later years of the series[2]. The three-year average for the labor-capital accord-era stands at 76.3%. On the other hand, workers drawn from the era of flexible production average a 79.4% positive response rate.

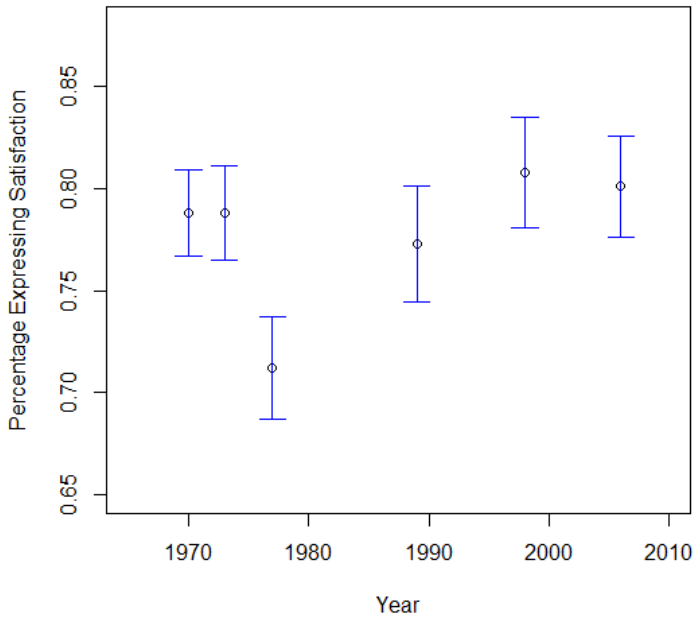

Figure 5.2 – Percent of Respondents Selecting either of the two Most Positive Responses to the Autonomy Questions
Data from 1970 is drawn from the Survey of Working Conditions (Quinn, Seashore & Mangione, 1975), data from 1973 & 1977 are drawn from the Quality of Employment Survey (Quinn & Stains, 1984), data from 1989, 1998 & 2006 are drawn from the General Social Survey (Davis, Smith and Marsden, 2009)
See Appendix 3.1 (pp. 75-76) for details on the categories of the autonomy question for each year.
Vertical bars indicate 95% confidence intervals

[2] It's interesting that 1977 is the only year in which satisfaction with autonomy dips below the 75% level. While speculative, I suspect the increased dissatisfaction observed in 1977 may be a function of the cultural climate of that time. For instance, Sidney Lumet's film *Network* was released in 1976. *Network* is probably best remembered for Howard Beale's "I'm mad as hell and I'm not going to take it!" rant – a tirade which was directed at his workplace writ large. Further, in 1977, Johnny Paycheck recorded the song *Take this Job and Shove It*. Perhaps the general mood of 1977 may have served to highlight Americans' dissatisfaction with the freedom they enjoyed at work.

A difference in proportions test (see pp. 86) reveals this gap is statistically significant at the .01 level. This finding suggests that, if anything, flexible production workers may be more likely to express positive sentiments regarding autonomy than were their labor-capital accord counterparts.

Table 5.2 displays the percentage of workers positively assessing workplace autonomy, broken down by sex, race, educational attainment, age, earnings, and occupational status. Both men's and women's self-assessments of autonomy experienced a drop in 1977, and a subsequent return to earlier levels in later years. Interestingly, women's self-assessments of autonomy at work are decidedly more pessimistic (8 to 12 points lower) than are men's for the labor-capital accord years (1970, 1973 and 1977). However, in the era of flexible production (1989, 1998, 2006) women and men express similar opinions regarding the extent to which their job confers autonomy. Indeed, flexible production women were 9.3% more likely to positively self-assess on the autonomy question than were their accord-era counterparts. On the other hand, flexible production-era men's sentiments regarding autonomy were little different from their accord-era counterparts.

Whites consistently express more satisfaction with workplace autonomy than do African-Americans. In many years the gap between the percentage of satisfied whites and satisfied African-Americans exceeds 10 points. However, there does appear to be some narrowing of the gap in self-assessments of job autonomy between blacks and whites in the last two years of the series. In 1998 and 2006, whites were only 5-6% more likely to express satisfaction with autonomy than were blacks. Both groups suffered a decline in satisfaction with autonomy in 1977. However, the rate at which whites and African-Americans rebounded from the 1977 dip appears to have differed. Whites return to pre-1977 levels of satisfaction by 1989, whereas sentiments among African-Americans don't exhibit improvement until 1998. Disaggregating by era yields average satisfaction rates of 77.6% and 80.9% for accord-era, and flexible production, whites respectively – an improvement of 3.3%. The

(Autonomy)	1970	1973	1977	1989	1998	2006
Sex						
Men	83.0	81.6	74.2	76.6	80.8	80.5
Women	71.2	73.5	66.2	78.4	80.8	79.5
Race						
White	80.3	80.5	72.0	79.1	81.2	82.3
African American	66.9	67.6	63.1	60.3	75.7	76.5
Education						
L/T H.S.	76.3	74.8	62.1	58.9	73.4	74.1
H.S. Grad	76.0	77.6	68.2	77.2	83.3	79.1
Some College	79.4	75.9	75.6	81.1	79.0	80.2
College Grad	86.9	88.5	78.5	83.2	86.5	84.6
G/T College	94.8	96.6	86.1	82.1	75.0	81.9
Age						
L/T 28	71.8	70.7	63.3	70.7	78.9	70.3
28 – 49	79.8	83.8	75.4	79.4	80.4	79.3
49 +	83.4	81.0	74.0	79.1	82.9	85.7
Earnings						
L/T $20,000	70.9	65.5	61.7	72.3	79.5	74.1
$20,000 - $40,000	79.0	83.2	63.1	78.4	79.3	79.1
$40,000 - $60,000	82.7	80.5	75.4	82.2	82.3	83.2
G/T $60,000	80.5	83.1	74.5	79.0	82.4	83.4
Occupation						
Blue-Collar	76.0	73.4	66.8	68.3	78.2	82.0
White-Collar	89.6	90.9	83.4	84.1	81.0	84.1
Clerical	74.1	74.2	63.5	79.3	85.7	80.7
Service	67.1	73.9	63.6	68.8	77.8	63.0

Table 5.2 – Percentage of Respondents Selecting either of the two Most Positive Responses to the Autonomy Questions

Data from 1970 is drawn from the Survey of Working Conditions (Quinn, Seashore & Mangione, 1975), data from 1973 & 1977 are drawn from the Quality of Employment Survey (Quinn & Stains, 1984), data from 1989, 1998 & 2006 are drawn from the General Social Survey (Davis, Smith and Marsden, 2009)

See Appendix 3.1 (pp. 75-76) for details on the categories of the autonomy question for each year.

Occupational categories were constructed using the 1980 Census occupational classification system. White-collar workers include those employed in managerial, professional or technical occupations. Blue-collar workers are employed in craft or operative occupations.

corresponding percentages among African-Americans are 65.9% (accord-era) and 70.8% (flexible production) – an improvement of 4.9%. However, a difference in differences test suggests that the rate at which African-American sentiments outpaced sentiments among whites is not statistically significant. In other words, there is no evidence to suggest that satisfaction rates among African-Americans grew at a faster rate than those among whites.

In general higher levels of educational attainment are associated with increased satisfaction with workplace autonomy. Satisfaction is particularly high among the college educated and those with a post-graduate education. Indeed, post-graduates report satisfaction rates in excess of 90% in 1970 and 1973. However, there is no clear across-time trend in satisfaction with autonomy for those in the middle three categories of educational attainment (high school graduate, some college, college graduate). Satisfaction rates did deteriorate somewhat among those with less than a high school education from 1970-1989, but rebounded to earlier levels in the last two years of the series. Flexible production (1989, 1998, 2006) college graduates were, on average, .2% more likely to positively self-assess on the autonomy variable than were accord-era college graduates. On the other hand, high school dropouts experienced an, on average, a 2.3% erosion in satisfaction rates when transitioning from the accord-era to flexible production. Those with a post-graduate education also experienced a steady deterioration in self-assessments of workplace autonomy (albeit from very high beginning levels) from 1970-1998, after which they experienced a modest rebound.

Young workers (those under 28) express greater dissatisfaction with workplace autonomy than do their older counterparts. However, there are few differences between the middle (28-49) and older (49+) groups of workers. Further, the gap in self-assessed satisfaction with autonomy between the youngest and oldest groups of workers also appears to narrow somewhat over the period 1970-1998. Indeed, older workers in 1998 were only 4% more likely to express satisfaction with autonomy than

their younger counterparts. However, this trend towards parity reversed course in 2006. In 2006 younger workers were 15.4% less likely to express satisfaction with autonomy relative to older workers. There is no clear across-time trend within age categories. Indeed, there is little movement whatsoever in the percentage of workers positively self-assessing autonomy over the six surveys. The percentage of workers expressing positive sentiments regarding workplace autonomy consistently hovers around the low 70s for the youngest workers, and the low 80s for older workers.

Generally speaking, high earners ($40,000+) express greater satisfaction with autonomy when compared to those earning less. However, the gap between high and low earners may have closed somewhat over the years. Indeed, the difference between the percentage of high earners, and low earners (less than $20,000) positively self-assessing on autonomy falls to 2.9% in 1998. Yet this trend towards parity reversed course in 2006, when high earners were roughly 9% more likely to express satisfaction with autonomy compared to low earners. Disaggregating the data by era yields average positive self-assessment rates of 79.4% and 81.6% among accord-era, and flexible production high ($60,000+) earners, respectively – an improvement of 2.2%. Average rates for low (less the $20,000) earners are 66% for the accord-era, and 75.3% for the flexible production group – an improvement of 9.3%. A difference in differences test reveals that the rate at which low earners outpaced high earners in terms of improved self-assessments of autonomy is statistically significant at the .001 level. In other words, there appears to be some evidence that attitudes regarding autonomy have improved over the course of the transition from labor-capital accord to the period of flexible production – but that improvement has been more rapid among the lowest earners.

White-collar workers tend to have more positive assessments of workplace autonomy than do workers in other occupational categories – particularly service (and to a lesser extent) blue-collar workers. Indeed, satisfaction rates among white-collar workers are consistently high – never falling

below 80%, and even exceeding 90% in 1973. Blue-collar workers experienced a steady deterioration in satisfaction with autonomy over the period 1970 – 1989. Curiously however, this trend has reversed course. In 1998 and 2006 satisfaction rates among blue-collar workers hovered around 80%. Indeed, blue-collar workers expressed almost as much satisfaction with autonomy as did white-collar workers in these years. Disaggregation by era yields a three-year average positive self-assessment rate of 88.0% for accord-era, and 83.1% for flexible production, white-collar workers – a 4.9% decline. In contrast, average three-year satisfaction rates among blue-collar workers were 72.1% for the accord-era, and 76.2% for the flexible production era – an increase of 4.1%. Hence, while white-collar workers consistently express greater satisfaction with autonomy compared to their blue-collar counterparts, the gap between occupational groups appears to have narrowed over time.

Summary: Trends in Satisfaction with Psychic Rewards

Compared to the trends in self-assessments of material rewards presented in the previous chapter, trends in workers' subjective perceptions of psychic well-being appear to be more stable. While there is some evidence of an over-time decline in self-assessments of intrinsic rewards (particularly in 1989 & 1998), there is little evidence that workers' perceptions of autonomy have changed much over the years. Nevertheless, there is evidence that some categories of workers (race, age, occupation) tend to express differing sentiments regarding the psychic benefits of work than do others. Table 5.3 presents the results of the difference in differences tests conducted above to illustrate this point.

Control Variables

Because different types of workers vary in terms of the way they self-assess satisfaction with intrinsic rewards and autonomy, it is possible that any over-time trends that do exist may be a reflection of changes in the composition of the labor force. In order to account for this possibility I will next specify a set of four models that will control for labor force characteristics in a multivariate fashion.

In this regard, I will follow the same format as presented in the previous chapter. For both measures of worker well-being (autonomy and intrinsic rewards) I begin by regressing workers' self-assessments of psychic rewards on a set of dummy variables representing the year from which each observation was drawn (and a set of controls) using a logistic regression model (Models 1 & 2).

Dependent Variable	*Group Differenced*	*t*
Intrinsic Rewards	Men - Women	2.34*
Intrinsic Rewards	White – African American	-4.73***
Intrinsic Rewards	College – High School	-1.03
Intrinsic Rewards	Older - Younger	-1.02
Intrinsic Rewards	High Earners – Low Earners	-27.44***
Intrinsic Rewards	White Collar – Blue Collar	-.93
Autonomy	White – African American	-.94
Autonomy	High Earners – Low Earners	-10.66***

Table 5.3 – Difference in Differences Tests for Demographic Categories Across Time
Note: Negative t-scores suggest that improvements/deteriorations in sentiments were steeper among the "subtracted" group. For example, because the deterioration in African-American's sentiments of intrinsic rewards is being subtracted from whites, the negative t-score (-4.73) suggests African-American's sentiments deteriorated at a more rapid pace than did whites'.
Significant t-scores suggest that the rate at which sentiments improved (or deteriorated) over time differed for each demographic division.
**p < .05; **p < .01; ***p < .001(two-tailed tests)*

Recall, however, that my dependent variables are ordinal. In order to better account for the ranked nature of my dependent variables I specify an additional set of models (Models 3 & 4) using the Stereotype Logit Model (SLM). As discussed in the previous chapter, SLM is a useful means of modeling ranked dependent variables, while simultaneously avoiding many of the problems that plague other models for ordinal outcomes. To illustrate problems of this sort, I provide a supplementary analysis using an alternative model (the ordered probit) in Appendix 5.1. Further, in the appendix I show that the ordered probit, when applied to my data, violates key model assumptions – rendering the SLM as the (arguably) more appropriate methodological choice. In order to avoid redundancy, I have opted to omit a detailed description of the models used in this chapter. Instead, I refer the reader to the listed pages for details regarding: the logistic regression model (Chapter 4, pp. 101-102), and the stereotype logit model (Chapter 4, pp. 102-104). Finally, the

control variables used in models 2 & 4 are identical to the controls used in Chapter 4. These controls include measures for worker sex, race, age, educational attainment, occupation and earnings (see Chapter 4, pp. 98-99 for a description of control variables).

Findings: Models 1 & 2 (Logistic Regression Models)

Tables 5.4a & 5.4b report the findings for Models 1 & 2. Note that in Table 5.4a & 5.4b positive coefficients suggest an improvement of worker self-assessments over time whereas negative coefficients suggest deterioration.

Satisfaction with Intrinsic Rewards

Models 1 and 2 suggest workers in the latter years of my analysis are more likely to negatively assess the intrinsic rewards attached to work relative to workers from earlier periods. Worker perceptions of intrinsic rewards, relative to the baseline year, steadily deteriorate over the period 1973 – 1998. Self-assessments regarding intrinsic rewards do show improvement in 2006. While the coefficient for 2006 is not statistically significantly different from baseline (1970) levels, it does appear to indicate a major shift in sentiments in the direction of optimism.

The addition of labor force composition variables in Model 2 does little to attenuate the overall trend over time in worker perceptions of intrinsic rewards reported in Model 1. With the possible exception of 2006, Model 2 suggests contemporary workers are more likely to negatively assess the intrinsic rewards associated with work when compared to past cohorts – a finding consistent with the results for Model 1.

Variable	Model 1 Estimate	Robust se	t-value	Model 2 Estimate	Robust se	t-value
1970		**Base Year**			**Base Year**	
1973	-.252	.106	-2.39*	-.268	.120	-2.23*
1977	-.345	.104	-3.33***	-.422	.127	-3.31**
1989	-.590	.110	-5.34***	-.836	.132	-6.34***
1998	-.713	.110	-6.51***	-1.05	.137	-7.63***
2006	.005	.116	.04	-.231	.151	-1.52
Age				.034	.016	2.09*
Age²				-.000	.000	-1.26
Male		**Reference Category**			**Reference Category**	
Female				.276	.097	2.84**
White		**Reference Category**			**Reference Category**	
African American				-.182	.117	-1.56
Other Race				-.272	.183	-1.49
L/T High School				-.086	.106	-.81
High School		**Reference Category**			**Reference Category**	
Some College				.018	.103	.17
College Grad				-.060	.155	-.38
G/T College				-.099	.196	-.51
Full-Time		**Reference Category**			**Reference Category**	
Part-Time				.012	.127	.09
Management		**Reference Category**			**Reference Category**	
Prof/Tech				.640	.182	3.51***
Sales				-.048	.205	-.23
Clerical				-.498	.159	-3.14***
Crafts				-.262	.166	-1.58
Operatives				-1.30	.162	-8.00***
Transportation				-.883	.213	-4.14***
Non-Farm Labor				-1.26	.213	-5.90***
Farmers				1.67	.979	1.70
Farm Labor				-.181	.530	-.34
Service				-.573	.165	-3.48***
Private Household				-1.27	.393	-3.23**
L/T 10,000		**Reference Category**			**Reference Category**	
10,000 – 20,000				.133	.141	.95
20,000 – 30,000				.391	.148	2.64**
30,000 – 40,000				.545	.163	3.34***
40,000 – 50,000				.803	.182	4.40***
50,000 – 60,000				.743	.209	3.55***
60,000 – 70,000				1.28	.334	3.84***
70,000 – 80,000				1.22	.366	3.33***
G/T 80,000				1.82	.379	4.81***
Intercept	1.76	.075	23.51	.856	.366	2.34

Table 5.4a – Logistic Regression Model Results – Intrinsic Rewards

Positive coefficients suggest more optimistic assessments of intrinsic rewards; Negative coefficients suggest more pessimistic assessments of job intrinsic rewards.
White is the reference category for race. High school graduate is the reference category for education. Management is the reference category for occupation. Less than $10,000 is the reference category for earnings. Age² a squared term.
**p < .05; **p < .01; ***p < .001(two-tailed tests)*

Variable	Model 1 Estimate	Robust se	t-value	Model 2 Estimate	Robust se	t-value
1970		**Base Year**			**Base Year**	
1973	.004	.096	.04	-.004	.110	-.04
1977	-.407	.090	-4.51***	-.533	.111	-4.78***
1989	-.083	.105	-.79	-.253	.125	-2.02*
1998	.124	.110	1.13	-.128	.136	-.94
2006	.079	.102	.77	-.196	.131	-1.50
Age				.036	.015	2.33*
Age²				-.000	.000	-1.27
Male		**Reference Category**			**Reference Category**	
Female				-.051	.089	-.58
White		**Reference Category**			**Reference Category**	
African American				-.308	.109	-2.83**
Other Race				-.059	.174	-.34
L/T High School				-.204	.100	-2.03*
High School		**Reference Category**			**Reference Category**	
Some College				.012	.097	.13
College Grad				.066	.143	.46
G/T College				-.075	.165	-.46
Full-Time		**Reference Category**			**Reference Category**	
Part-Time				.015	.121	.12
Management		**Reference Category**			**Reference Category**	
Prof/Tech				-.057	.155	-.37
Sales				-.295	.187	-1.58
Clerical				-.574	.151	-3.79***
Crafts				-.340	.160	-2.13*
Operatives				-1.12	.158	-7.09***
Transportation				-.446	.214	-2.09*
Non-Farm Labor				-.848	.212	-3.99***
Farmers				1.63	.985	1.65
Farm Labor				-.128	.504	-.25
Service				-.806	.159	-5.08***
Private Household				.536	.574	.93
L/T 10,000		**Reference Category**			**Reference Category**	
10,000 – 20,000				-.069	.138	-.50
20,000 – 30,000				.161	.144	1.12
30,000 – 40,000				.146	.155	.95
40,000 – 50,000				.431	.176	2.44*
50,000 – 60,000				.376	.198	1.90
60,000 – 70,000				.958	.317	3.02**
70,000 – 80,000				1.05	.355	2.96*
G/T 80,000				.272	.250	1.09
Intercept	1.31	.065	20.25	.851	.336	2.53

Table 5.4b – Logistic Regression Model Results – Autonomy

Positive coefficients suggest more optimistic assessments of autonomy; Negative coefficients suggest more pessimistic assessments of autonomy.
White is the reference category for race. High school graduate is the reference category for education. Management is the reference category for occupation. Less than $10,000 is the reference category for earnings. Age² a squared term.
**p < .05; **p < .01; ***p < .001(two-tailed tests)*

Satisfaction with Autonomy

The results of Models 1 & 2 are ambiguous. There is little evidence of a discernable trend in self-assessments of autonomy in Model 1. However, once controls are accounted for, all five year dummies turn up *negative*. Yet, even in Model 2, only two of the five year dummies attain statistical significance. Hence, contrary to the findings I present earlier, there is some evidence that (net of controls) workers in 1973 and 1977 may have expressed diminished self-assessments of autonomy.

An Alternative Model Specification: The Stereotype Logit Model (SLM)

Tables 5.5a & 5.5b report the results of Models 3 & 4 for worker perceptions regarding intrinsic rewards and autonomy, respectively. Note that year coefficients for Models 3 & 4 are less equivocal than those for Models 1 & 2. While the logistic models suggest possible deterioration in perceptions of intrinsic rewards, they suggest very little in the way of changes in worker perceptions of autonomy. The stereotype logit models (Models 3 & 4), on the other hand, suggest an unambiguous decline in worker sentiments of both autonomy and intrinsic rewards. I attribute this difference to the Stereotype Logit Model's ability to account for the four-category structure of my measures of worker self-assessments.

Satisfaction with Intrinsic Rewards

Models 3 and 4 suggest contemporary workers are more likely to express pessimism regarding intrinsic rewards than were their historical counterparts. Model 3 suggests workers assessments of intrinsic rewards steadily deteriorated (relative to the baseline year) over the period 1970-1998. Opinions appear to have improved somewhat by 2006, but nevertheless remained well below baseline levels. The addition of control variables in Model 4, does nothing to attenuate these results.

Variable	Model 3 Estimate	Robust se	t-value	Model 4 Estimate	Robust se	t-value
1970		**Base Year**			**Base Year**	
1973	-.067	.075	-.89	-.283	.124	-2.29*
1977	-.365	.076	-4.82***	-.811	.135	-5.99***
1989	-1.60	.129	-12.40***	-2.52	.166	-15.17***
1998	-1.75	1.37	-12.73***	-2.78	.174	-15.94***
2006	-.881	.083	-10.62***	-2.00	.168	-11.91**
Age				.033	.019	1.78
Age^2				-.000	.000	-.55
Male		**Reference Category**			**Reference Category**	
Female				.395	.102	3.88***
White		**Reference Category**			**Reference Category**	
African American				-.332	.138	-2.40*
Other Race				-.131	.229	-.57
L/T High School				-.042	.121	-.35
High School		**Reference Category**			**Reference Category**	
Some College				.004	.109	.04
College Grad				-.157	.151	-1.04
G/T College				.385	.167	2.31*
Full-Time		**Reference Category**			**Reference Category**	
Part-Time				.062	.143	.43
Management		**Reference Category**			**Reference Category**	
Prof/Tech				.330	.144	2.29*
Sales				-.199	.185	-1.07
Clerical				-.984	.158	-6.22***
Crafts				-.396	.154	-2.57*
Operatives				-1.73	.207	-8.33***
Transportation				-.905	.241	-3.76***
Non-Farm Labor				-1.44	.318	-4.51***
Farmers				1.33	.519	2.56*
Farm Labor				.429	.579	.74
Service				-.467	.184	-2.55*
Private Household				-1.86	.653	-2.84**
L/T 10,000		**Reference Category**			**Reference Category**	
10,000 – 20,000				.170	.184	.92
20,000 – 30,000				.375	.189	1.99*
30,000 – 40,000				.603	.197	3.06**
40,000 – 50,000				.717	.216	3.31***
50,000 – 60,000				.739	.228	3.24**
60,000 – 70,000				1.08	.292	3.71***
70,000 – 80,000				1.14	.301	3.78***
G/T 80,000				1.52	.273	5.56***
φ_{1_1}	1	(Constrained)		1	(Constrained)	
φ_{1_2}	-.081	.073	-1.10	.288	.044	6.59
φ_{1_3}	.165	.072	2.29	.156	.051	3.07
φ_{1_4}	0	(Base Outcome)		0	(Base Outcome)	
θ_1	2.44	.078	31.15	1.74	.425	4.10
θ_2	1.36	.071	19.24	1.71	.138	12.42
θ_3	.590	.080	7.37	.473	.102	4.65
θ_3	0	(Base Outcome)		0	(Base Outcome)	

Table 5.5a – Stereotype Logit Model Results – Intrinsic Rewards

Positive coefficients suggest more optimistic assessments of intrinsic rewards; Negative coefficients suggest more pessimistic assessments of intrinsic rewards.

White is the reference category for race. High school graduate is the reference category for education. Management is the reference category for occupation. Less than $10,000 is the reference category for earnings. Age^2 a squared term.

**p < .05; **p < .01; ***p < .001(two-tailed tests)*

Variable	Model 3 Estimate	Robust se	t-value	Model 4 Estimate	Robust se	t-value
1970		**Base Year**			**Base Year**	
1973	-.103	.066	-1.56	-.241	.135	-1.79
1977	-.349	.072	-4.85***	-.940	.157	-5.97***
1989	-1.03	.124	-8.25***	-1.73	.169	-10.24***
1998	-1.05	.122	-8.65***	-1.68	.176	-9.49***
2006	-.512	.080	-6.43***	-1.62	.193	-8.38***
Age				.032	.022	1.47
Age^2				-.000	.000	-.68
Male		**Reference Category**			**Reference Category**	
Female				-.034	.110	-.31
White		**Reference Category**			**Reference Category**	
African American				-.384	.156	-2.46*
Other Race				-.144	.237	-.61
L/T High School				.147	.149	.99
High School		**Reference Category**			**Reference Category**	
Some College				.215	.119	1.81
College Grad				.313	.159	1.96*
G/T College				.479	.183	2.61**
Full-Time		**Reference Category**			**Reference Category**	
Part-Time				.109	.157	.70
Management		**Reference Category**			**Reference Category**	
Prof/Tech				-.204	.156	-1.31
Sales				-.006	.213	-.03
Clerical				-.606	.176	-3.45***
Crafts				-.462	.170	-2.72**
Operatives				-1.43	.245	-5.86***
Transportation				-.611	.256	-2.39*
Non-Farm Labor				-.894	.309	-2.90**
Farmers				1.93	.639	3.02**
Farm Labor				.084	.623	.14
Service				-.928	.212	-4.38***
Private Household				.431	.501	.86
L/T 10,000		**Reference Category**			**Reference Category**	
10,000 – 20,000				-.174	.197	-.88
20,000 – 30,000				.129	.203	.64
30,000 – 40,000				.307	.212	1.45
40,000 – 50,000				.376	.233	1.62
50,000 – 60,000				.612	.248	2.47*
60,000 – 70,000				1.00	.315	3.17**
70,000 – 80,000				1.15	.332	3.46***
G/T 80,000				.996	.302	3.30***
φ_{1_1}	1	(Constrained)		1	(Constrained)	
φ_{1_2}	-.299	.139	-2.15	.404	.061	6.62
φ_{1_3}	.449	.103	4.34	.372	.066	5.66
φ_{1_4}	0	(Base Outcome)		0	(Base Outcome)	
θ_1	1.88	.072	26.28	1.58	.475	3.33
θ_2	1.13	.067	16.79	1.62	.198	8.20
θ_3	.539	.075	7.21	.458	.191	2.40
θ_3	0	(Base Outcome)		0	(Base Outcome)	

Table 5.5b – Stereotype Logit Model Results – Autonomy

Positive coefficients suggest more optimistic assessments of autonomy; Negative coefficients suggest more pessimistic assessments of autonomy.

White is the reference category for race. High school graduate is the reference category for education. Management is the reference category for occupation. Less than $10,000 is the reference category for earnings. Age^2 a squared term.

**p < .05; **p < .01; ***p < .001(two-tailed tests)*

Indeed, the magnitude of the year coefficients increases when controls are added. This suggests that the exclusion of controls suppresses the full extent to which worker sentiments have eroded.

Satisfaction with Autonomy

Contrary to what is presented in Figure 5.2, Models 3 and 4 indicate that worker perceptions of autonomy have eroded relative to 1970. Model 3 shows opinions regarding autonomy soured through 1989 before experiencing a slight rebound in 2006. Although worker pessimism appears not to have been as extreme in final year of the analysis, self-assessments of autonomy are, nevertheless, more pessimistic in 2006 than at any point in the 1970s. Model 4 suggests a narrative similar to that of Model 3 – the addition of controls does little to attenuate the overall findings. Workers in the latter three years of my analysis appear to express decidedly more negative sentiments regarding the extent to which their job provides autonomy than did their 1970s counterparts.

Summary of Findings

On the balance, my findings suggest contemporary workers hold more negative opinions of the psychic benefits of work when compared to their accord-era counterparts. However, the evidence regarding a decline in sentiments of autonomy is somewhat weaker than that for intrinsic rewards. The logistic regression models (Models 1 & 2) show no discernable trend in self-assessments of autonomy over time. However, when the ordinal nature of the data is taken into account using an SLM framework, evidence of a deterioration in worker sentiments appears to emerge. Hence, the appearance of a negative trend in the SLM illustrates the importance of taking into account the distinctions between each category of a polychotomous dependent variable – a distinction the logistic model is unable to make. On the other hand, Models 1-4 strongly suggest contemporary workers are less likely to express positive opinions regarding intrinsic rewards than were their 1970s

counterparts. These results are generally consistent with the pessimistic account of workplace transformation. Table 5.6 summarizes these findings.

Dependent Variable	Trend in Worker Assessments of the Psychic Rewards Associated with Work (relative to 1970)
Intrinsic Rewards	More Negative
Autonomy	More Negative

Table 5.6 – Summary of Chapter 5 Findings

I will delay further discussion of these findings until Chapter 7. Next, I will present an analysis of trends in worker satisfaction with workloads, and the pace at which work must be performed. The following chapter repeats the analysis performed above, using subjective measures of work intensity instead of self-assessments of the psychic rewards.

Appendix 5.1

As noted earlier, the ordered probit is a commonly used method for modeling ordinal dependent variables. However, the ordered probit model also makes assumptions that have been shown to be frequently violated in practice. For a more detailed description of the ordered probit model see Appendix 4.1 (pp. 115-116). Here, I will assess the extent to which two ordered probit models constructed from my data (Models A1 & A2) are in violation of model assumptions.

Assessing the Ordered Probit Model: The Parallel Regression Assumption

Recall the ordered probit model assumes constant beta coefficients across all J categories of the dependent variable. In this section I will report the results of a series of likelihood-ratio tests intended to test whether the parallel regression assumption is violated in Models A1 & A2.

Dependent Variable	$X^2(68)$	Prob > X^2
Intrinsic Rewards	333.23	.000***
Autonomy	336.28	.000***

Table A5.1 - Likelihood-Ratio Tests of the Parallel Regression Assumption (Model A2)
Large values of X^2 suggest violations of the parallel regression assumption.
*$p < .05$; **$p < .01$; ***$p < .001$*

Table A5.1 reports the results of the likelihood-ratio tests. Note that for each model of worker well-being the likelihood-ratio tests suggest a violation of the parallel regression assumption. In no case, is the X^2 generated by the likelihood-ratio tests sufficiently small so as to warrant a conclusion of constant beta coefficients across categories. These findings suggest Model A2 is, indeed, in violation of the parallel regression assumption. This evidence of beta coefficient inconsistency across all categories of the dependent variable served as my motivation to construct models using a Stereotype Logit framework. Unlike the ordered probit model, SLM is not subject to the parallel regression assumption. Hence, when evidence of beta coefficient variance across categories is manifest in the

OPM, the SLM is, arguably, a more appropriate methodological choice. In any case, for the sake of comparison and comprehensiveness, I report the results from an analysis of the data using an Ordered Probit framework below.

Findings: Models A1 & A2 (Ordered Probit Models)

Tables A5.2 & A5.3 report the findings for Models A1 & A2. Note that in Table A5.2 & A5.3 positive coefficients suggest an improvement of worker self-assessments over time, whereas negative coefficients suggest deterioration.

Satisfaction with Intrinsic Rewards

Models A1 and A2 suggest workers in the latter years of my analysis are more likely to negatively assess the intrinsic rewards attached to work relative to workers from earlier periods. Worker perceptions of intrinsic rewards, relative to the baseline year, steadily deteriorate over the period 1973 – 1998. Self-assessments regarding intrinsic rewards do appear to rebound slightly in 2006, however workers in this year remain more pessimistic when compared to workers in 1970.

The addition of labor force composition variables in Model A2 does little to attenuate the overall trend over time in worker perceptions of intrinsic rewards reported in Model A1. Model A2, consistent with Model A1, suggests contemporary workers are more likely to negatively assess the intrinsic rewards associated with work when compared to past cohorts.

Satisfaction with Autonomy

Models A1 and A2 suggest an overall deterioration in worker satisfaction with autonomy relative to 1970. Although this trend is non-monotonic, the coefficient on four of the five year dummies are

Variable	Model A5.1 Estimate	Robust se	t-value	Model A5.2 Estimate	Robust se	t-value
1970		**Base Year**			**Base Year**	
1973	-.048	.044	-1.09	-.054	.045	-1.22
1977	-.194	.043	-4.54***	-.226	.044	-5.14***
1989	-.706	.047	-14.89***	-.822	.049	-16.69***
1998	-.770	.048	-16.00***	-.907	.051	-17.94***
2006	-.483	.037	-12.99***	-.615	.041	-15.14***
Age				.019	.005	3.53***
Age²				-.000	.000	-2.05*
Male		**Reference Category**			**Reference Category**	
Female				.078	.029	2.64**
White		**Reference Category**			**Reference Category**	
African American				-.159	.039	-4.10***
Other Race				-.084	.053	-1.58
L/T High School				.015	.037	.41
High School		**Reference Category**			**Reference Category**	
Some College				.037	.033	1.13
College Grad				-.002	.044	-.04
G/T College				.148	.051	2.88**
Full-Time		**Reference Category**			**Reference Category**	
Part-Time				-.008	.039	-.21
Management		**Reference Category**			**Reference Category**	
Prof/Tech				.006	.045	.12
Sales				.073	.045	1.60
Clerical				.105	.048	2.18*
Crafts				.213	.055	3.88***
Operatives				.137	.060	2.30*
Transportation				.346	.085	4.05***
Non-Farm Labor				.306	.082	3.72***
Farmers				.472	.075	6.27***
Farm Labor				.125	.045	2.77**
Service				-.066	.057	-1.16
Private Household				-.342	.048	-7.14***
L/T 10,000		**Reference Category**			**Reference Category**	
10,000 – 20,000				-.126	.049	-2.57*
20,000 – 30,000				-.738	.053	-13.90***
30,000 – 40,000				-.395	.071	-5.56***
40,000 – 50,000				-.605	.072	-8.45***
50,000 – 60,000				.302	.118	2.56*
60,000 – 70,000				-.402	.155	2.59**
70,000 – 80,000				-.225	.050	-4.51***
G/T 80,000				-.568	.119	-4.76***
τ_1	.264	.031	8.52	.177	.118	1.50
τ_2	1.20	.033	36.36	.830	.118	7.03
τ_3	1.79	.035	51.14	1.46	.118	12.37

Table A5.2 – Ordered Probit Model Results – Intrinsic Rewards

Positive coefficients suggest more optimistic assessments of intrinsic rewards; Negative coefficients suggest more pessimistic assessments of intrinsic rewards.

White is the reference category for race. High school graduate is the reference category for education. Management is the reference category for occupation. Less than $10,000 is the reference category for earnings. Age² a squared term.

**p < .05; **p < .01; ***p < .001(two-tailed tests)*

Variable	Model A5.1 Estimate	Robust se	t-value	Model A5.2 Estimate	Robust se	t-value
1970		**Base Year**			**Base Year**	
1973	.013	.042	.32	.003	.043	.06
1977	-.220	.041	-5.37***	-.252	.042	-6.02***
1989	-.418	.047	-8.96***	-.491	.048	-10.20***
1998	-.365	.048	-7.69***	-.443	.050	-8.94***
2006	-.326	.036	-9.06***	-.443	.039	-11.31***
Age				.010	.005	1.91
Age²				-.000	.000	-.31
Male		**Reference Category**			**Reference Category**	
Female				-.055	.029	-1.91
White		**Reference Category**			**Reference Category**	
African American				-.114	.038	-2.96**
Other Race				.017	.053	.32
L/T High School				-.027	.036	-.74
High School		**Reference Category**			**Reference Category**	
Some College				.073	.032	2.25*
College Grad				.104	.044	2.38*
G/T College				.128	.050	2.59**
Full-Time		**Reference Category**			**Reference Category**	
Part-Time				.029	.038	.77
Management		**Reference Category**			**Reference Category**	
Prof/Tech				-.065	.044	-1.46
Sales				-.024	.045	-.53
Clerical				.036	.048	.75
Crafts				.064	.054	1.18
Operatives				.104	.058	1.78
Transportation				.300	.083	3.62***
Non-Farm Labor				.226	.080	2.81**
Farmers				.277	.073	3.80***
Farm Labor				-.142	.044	-3.22***
Service				-.170	.056	-3.03**
Private Household				-.328	.047	-6.96***
L/T 10,000		**Reference Category**			**Reference Category**	
10,000 – 20,000				-.274	.048	-5.70***
20,000 – 30,000				-.684	.053	-13.03***
30,000 – 40,000				-.289	.071	-4.10***
40,000 – 50,000				-.416	.071	-5.83***
50,000 – 60,000				.627	.126	4.98***
60,000 – 70,000				-.370	.152	-2.43*
70,000 – 80,000				-.426	.049	-8.72***
G/T 80,000				.014	.124	.34
τ_1	.009	.030	.30	.113	.117	.97
τ_2	.952	.031	30.71	.878	.117	7.50
τ_3	1.52	.033	46.06	1.48	.118	12.54

Table A5.3 – Ordered Probit Model Results – Autonomy

Positive coefficients suggest more optimistic assessments of autonomy; Negative coefficients suggest more pessimistic assessments of autonomy.

White is the reference category for race. High school graduate is the reference category for education. Management is the reference category for occupation. Less than $10,000 is the reference category for earnings. Age² a squared term.

**p < .05; **p < .01; ***p < .001(two-tailed tests)*

both positive and statistically significant. This finding suggests an erosion of worker well-being over time on the autonomy domain of self-assessed job quality. Furthermore, my finding of a deterioration in workers' self-assessments of the degree to which they are able to exercise independence at work is robust to the inclusion of labor force composition controls (Model A2). Indeed, the inclusion of controls in Model A2 suggests the deterioration in workers perceptions of autonomy at work has been more extreme relative to the model (Model A1) in which controls are omitted.

Chapter 6

Work Intensity – Worker Satisfaction with Workload and the Pace of Work

In this chapter I will explore trends in worker satisfaction with the overall amount of work (workload), as well as the speed at which work is undertaken (work pace). The exploratory factor analysis presented earlier suggests workload and work pace load on a single underlying latent factor (see Figure 3.1, pp 63). Both workload and work pace can reasonably be conceptualized as domains of worker well-being pertaining to the degree to which workers experience occupational stress. Satisfaction with workload and the pace of work likely suggests a lower incidence of anxiety and strain. Indeed, a sizable literature draws a clear link between overwork and stress (Kirkcaldy et al, 1997; Schor, 1991; Smith et al, 1981)[1]. Because my measures for worker perceptions of workload and work pace are conceptually and empirically (as suggested by my exploratory factor analysis) similar, I have chosen to analyze these domains of worker well-being separately from material rewards (Chapter 4), and psychic rewards (Chapter 5).

Satisfaction with Work Loads

Figure 6.1 displays the point estimates and associated confidence intervals for the percentage of respondents selecting either of the two most positive categories for the work load variable. As is evident from Figure 6.1, there has been a dramatic drop in self-reported satisfaction with workloads over the thirty-six-year span in question. The proportion of workers positively self-assessing on the workload variable remained above 60% throughout the 1970s. In contrast, satisfaction rates among

[1] Interestingly, in Japan, the term *Karoshi* is a legally recognized term to indicate incidences of "death by overwork" (Nishiyama & Johnson, 1997). The existence, and legal recognition, of a word explicitly linking extreme workloads with mortality is, to say the least, suggestive of the importance of workload to overall worker well-being.

workers drawn from the last three years of the series hover in the low teens. This dramatic decline in self-assessed satisfaction with workloads is probably, in part, a reflection of the dissimilar sources of data used to construct these measures (see Appendix 3.1, pp. 75-76 for a description of the construction of the workload variable). On the other hand, a downward trend in rates of satisfaction is detectable if we restrict ourselves to just looking at data drawn from the 1970s. This potentially suggests that an erosion in sentiments may have been underway prior to 1989. Indeed, 66.2% of respondents positively assessed on the workload variable in 1977. This constitutes an 8.6% drop in positive responses relative to 1970. Further, a difference in proportions test (see pp. 86) reveals this gap is statistically significant at the .01 level.

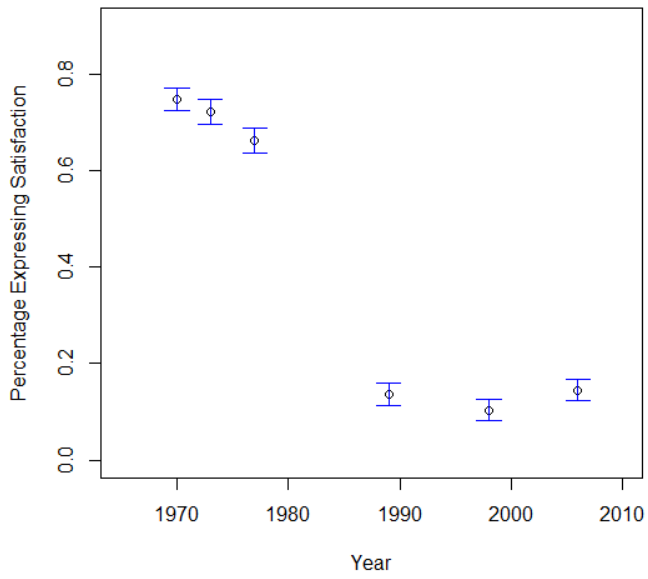

Figure 6.1 – Percent of Respondents Selecting either of the two Most Positive Responses to the Work Load Questions
Data from 1970 is drawn from the Survey of Working Conditions (Quinn, Seashore & Mangione, 1975), data from 1973 & 1977 are drawn from the Quality of Employment Survey (Quinn & Stains, 1984), data from 1989, 1998 & 2006 are drawn from the General Social Survey (Davis, Smith and Marsden, 2009)
See Appendix 3.1 (pp. 75-76) for details on the categories of the work load question for each year.
Vertical bars indicate 95% confidence intervals

Table 6.1 displays the percentage of workers positively assessing on the workload variable, broken down by sex, race, educational attainment, age, earnings, and occupational status. There appears to be few differences between the opinions of men and women. Some years men are slightly more likely to express positive sentiments regarding workloads, whereas women hold a slight advantage in others. Disaggregating the data by "era" (see Table 4.1, pp. 80) yields three-year averages of 70.7% and 13.3% for accord, and flexible production, men – a decline of 57.4%. On the other hand, the average satisfaction rate for flexible production women was 12.5%, down from an average of 71.6% during the accord-era. However a difference in differences test suggests few disparities between men's and women's deteriorating sentiments across the two eras[2]. It appears that, for each sex, self-assessments of workloads plummeted at a similar rate.

In most years African-Americans express greater dissatisfaction with workloads than do their white counterparts. There are a couple of years when the self-assessments of whites and blacks are roughly equivalent, however whites appear to be 3%-10% more likely to express satisfaction with workloads in most years. Yet, while whites tend to convey greater optimism regarding workloads, both blacks and whites experienced a similar deterioration in sentiments over time. Three-year averages for flexible production workers are 59.5% lower among whites, and 55.9% lower among African-Americans, than the corresponding three-year averages for the accord-era. However, a difference in differences test suggests the gap (4%) between the deterioration in sentiments among whites and blacks is not statistically significant – a finding that implies both groups experienced similar deterioration in self-assessments over time.

[2] See Ch. 4 pp. 80-81 for a description the "difference in differences" technique used to assess whether different groups of workers experienced the transition to flexible production differently.

(Work Load)	1970	1973	1977	1989	1998	2006
Sex						
Men	74.1	71.7	66.2	12.1	12.1	15.6
Women	76.1	72.8	66.0	15.4	9.0	13.2
Race						
White	78.9	72.5	66.1	13.4	10.2	15.5
African American	67.6	68.5	66.0	16.4	7.5	10.6
Education						
L/T H.S.	75.2	69.9	64.6	19.6	8.9	15.6
H.S. Grad	76.0	74.4	68.0	11.8	7.6	11.8
Some College	71.4	68.5	63.0	14.5	13.1	13.4
College Grad	75.7	70.2	69.2	11.5	13.5	17.9
G/T College	75.0	80.7	67.2	12.0	8.3	16.0
Age						
L/T 28	73.7	72.8	62.1	17.8	10.9	11.5
28 – 49	72.5	70.2	66.8	11.6	9.6	13.5
49 +	79.4	74.6	70.4	14.7	12.1	17.4
Earnings						
L/T $20,000	75.1	71.6	64.6	16.0	12.0	15.0
$20,000 - $40,000	77.2	75.5	67.9	12.8	11.2	10.5
$40,000 - $60,000	77.3	71.3	67.8	10.6	6.8	12.4
G/T $60,000	70.5	71.5	65.2	13.8	12.4	17.5
Occupation						
Blue-Collar	74.1	72.5	60.8	10.4	8.8	9.0
White-Collar	76.8	71.0	69.2	11.7	9.2	17.1
Clerical	74.4	74.7	70.9	22.2	15.2	14.0
Service	75.2	73.9	67.5	20.4	13.0	11.6

Table 6.1 – Percentage of Respondents Selecting either of the two Most Positive Responses to the Work Load Questions

Data from 1970 is drawn from the Survey of Working Conditions (Quinn, Seashore & Mangione, 1975), data from 1973 & 1977 are drawn from the Quality of Employment Survey (Quinn & Stains, 1984), data from 1989, 1998 & 2006 are drawn from the General Social Survey (Davis, Smith and Marsden, 2009)

See Appendix 3.1 (pp. 75-76) for details on the categories of the work load question for each year.

Occupational categories were constructed using the 1980 Census occupational classification system. White-collar workers include those employed in managerial, professional or technical occupations. Blue-collar workers are employed in craft or operative occupations.

A casual glance at Table 6.1 suggests no discernable differences between categories of educational attainment. College graduates are no more likely to express positive sentiments of workloads than are their less educated counterparts. For all groups of educational attainment, satisfaction with workloads hovered around 70% before dropping somewhat in 1977, and dropping precipitously in 1989. Yet, there is some evidence that the drop in self-assessments may have been more precipitous for less educated workers. For example, the three-year average for flexible production college graduates was 57.4% lower than the three-year average for accord-era college graduates. The corresponding decline among high school graduates stands at 64.2%. Hence, the drop in self-assessed satisfaction was 6.8% larger for high school graduates. A difference in differences test reveals this gap to be statistically significant at the .01 level.

Older workers appear slightly more likely to express satisfaction with workloads than are younger workers. With the exception of 1989 – when this relationship was reversed – older workers appear to be 2%-8% more likely to positively self-assess on the workload variable. However, all age groups show a similar pattern of decline over time. Sentiments regarding workloads underwent a slow deterioration in the 1970s, followed by a dramatic drop-off at some point prior to 1989 for young and old workers alike. Yet there is some evidence to suggest that sentiments among older workers may have plummeted further than did sentiments among younger workers. The three-year average for the flexible production group was 60.1% lower among older (49+) workers than the three-year average for the accord group. In contrast, average sentiments among younger (less than 28) workers fell by 56.1% across the two eras. A difference in differences test reveals this gap (4%) is statistically significant at the .05 level – suggesting self-assessments among older workers fell at a faster rate than was the case for younger workers.

Table 6.1 shows there are few differences in the way high-earners and low-earners express satisfaction with workloads. In each year, low earners express satisfaction with workloads at a similar rate to high earners. Further, a similar trend to that reported above – slow deterioration in sentiments during the 1970s, followed by a large decline in later years – is also present when respondents are broken down by earnings category.

Finally, blue-collar workers appear to express less satisfaction with workloads relative to other occupational groups. In most years, white-collar workers were slightly more likely (1%-8%) to positively evaluate their workloads. Service and clerical workers also appear to express greater satisfaction than do their blue-collar counterparts. Indeed, in several years, the gap between service/clerical workers and blue-collar workers rates of satisfaction is greater than the disparity between white- and blue-collar workers. In addition, the same general trend of slow erosion in sentiments in the 1970s, followed by a large drop-off at some point prior to 1989, is also present when the data are broken up by occupational category. Further, all groups of occupational categories appear to experience roughly the same degree of deterioration in sentiments over time. For example, the three-year average positive self-assessment rate among white-collar flexible production workers is 59.6% lower than that for white-collar accord-era workers. Similarly, the drop in average positive sentiments among blue-collar flexible production workers relative to the three-year average among blue-collar accord-era workers is 59.7%. Hence, there is only a .1% difference between the deterioration experienced by white- and blue-collar workers – a difference that is not statistically significant.

Satisfaction with the Pace of Work

Figure 6.2 presents the percentage of workers selecting either of the two most positive response categories for the work pace variable for all six years of data. As is evident from Figure 6.2, worker

self-assessments of the pace of work have become much more negative in recent years. While the proportion of workers positively self-assessing on the work pace variable remained above 70% during the 1970s, satisfaction rates had precipitously declined by 1989. Indeed, the proportion of workers expressing positive sentiments regarding the pace of work dips into the 15%-20% range in the final three years of the series. However, as was the case for the workload variable, trends in self-assessments of work pace appear to have worsened somewhat over the 1970s as well. While the deterioration in worker sentiments documented in the 1970s is nowhere near as dramatic as the declines recorded for later years, it nevertheless suggests the possibility of a long-term trend in the direction of greater pessimism.

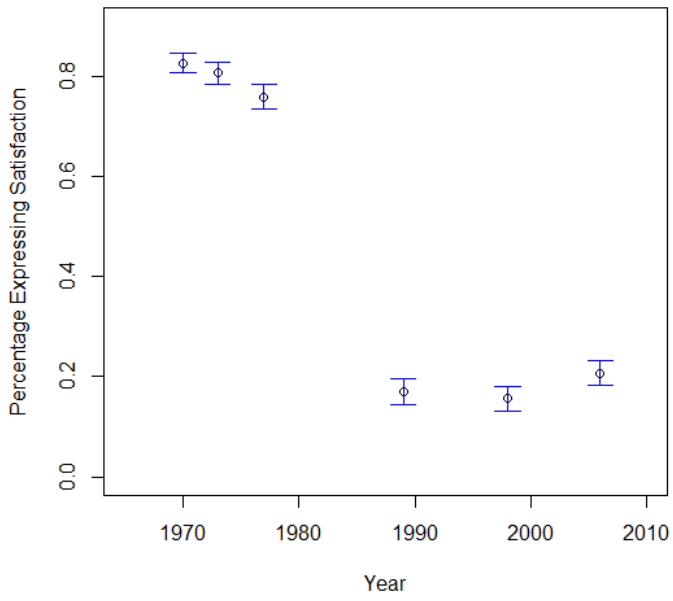

Figure 6.2 – Percent of Respondents Selecting either of the two Most Positive Responses to the Work Pace Questions
Data from 1970 is drawn from the Survey of Working Conditions (Quinn, Seashore & Mangione, 1975), data from 1973 & 1977 are drawn from the Quality of Employment Survey (Quinn & Stains, 1984), data from 1989, 1998 & 2006 are drawn from the General Social Survey (Davis, Smith and Marsden, 2009)
See Appendix 3.1 (pp. 75-76) for details on the categories of the work pace question for each year.
Vertical bars indicate 95% confidence intervals

Table 6.2 displays the percentage of workers positively assessing work pace, broken down by sex, race, educational attainment, age, earnings, and occupational status. As indicated by Table 6.2, women express greater satisfaction with work pace than do men for five out of the six years under consideration. While this gap is not particularly large (1%-8%), it nevertheless stands in contrast to a number of measures presented earlier in which men held an advantage over women. Both women's and men's opinions regarding the pace of work were dramatically lower in the final three years of analysis. However, each sex also appears to experience some deterioration in sentiments over the 1970s. Indeed, the the proportion of men positively self-assessing on the work pace variable in 1977 (relative to 1970) falls by roughly 9%. Further, men and women do not appear to differ in terms of the extent to which sentiments regarding work pace underwent erosion. Flexible production men were 60.8% less likely to positively self-assess on the work pace variable than their accord-era counterparts. Among women, the corresponding decline in positive self-assessments stands at 59.8%. However, this 1% gap between the drop in men's versus women's self-assessments is not statistically significant when subjected to a difference in differences test.

There is no clear difference in the way whites and African-American assess satisfaction with work pace. If anything, there is weak evidence that African-Americans express greater satisfaction with the pace of work relative to whites. Indeed, in 1989, African-Americans were 15% more likely than whites to claim satisfaction with work pace. Yet, both groups experienced a precipitous decline in the proportion of workers positively self-assessing the pace of work in the final three years of the series. Further, there is some evidence that sentiments among whites may have deteriorated at a faster pace than among African-Americans. Flexible production whites were 63.3% less likely to positively self-assess on the work pace variable compared to their accord-era counterparts. In contrast, the decline among African-Americans was a more modest 55%. A difference in differences test reveals that the gap (8.3%) between the declining sentiments among whites and blacks is

(Work Pace)	1970	1973	1977	1989	1998	2006
Sex						
Men	82.1	80.0	72.9	16.2	16.5	19.8
Women	83.4	84.7	80.8	18.0	14.9	21.7
Race						
White	82.8	80.9	75.9	15.4	15.4	19.1
African American	82.4	79.3	72.8	30.1	13.1	26.5
Education						
L/T H.S.	82.4	79.3	72.8	30.1	13.1	26.5
H.S. Grad	83.8	81.4	78.3	25.9	24.1	26.7
Some College	84.0	78.4	74.1	16.3	17.0	19.1
College Grad	82.2	77.9	72.0	12.4	10.8	21.0
G/T College	71.9	78.4	70.5	10.3	7.1	14.6
Age						
L/T 28	80.8	79.9	74.9	18.8	17.0	29.1
28 – 49	80.5	79.7	75.6	13.7	12.4	16.5
49 +	87.2	83.1	77.6	23.7	22.1	23.8
Earnings						
L/T $20,000	84.0	82.3	83.4	23.8	23.4	27.4
$20,000 - $40,000	84.4	85.6	77.0	16.9	13.3	18.6
$40,000 - $60,000	81.5	79.8	71.6	10.6	10.5	14.6
G/T $60,000	81.2	77.3	75.3	13.8	16.1	20.5
Occupation						
Blue-Collar	83.8	81.5	74.3	19.7	22.4	22.8
White-Collar	81.5	77.5	73.9	12.8	10.9	14.9
Clerical	82.1	84.5	81.3	21.5	10.5	21.9
Service	85.2	81.3	77.3	20.4	26.9	25.4

Table 6.2 – Percentage of Respondents Selecting either of the two Most Positive Responses to the Work Pace Question

Data from 1970 is drawn from the Survey of Working Conditions (Quinn, Seashore & Mangione, 1975), data from 1973 & 1977 are drawn from the Quality of Employment Survey (Quinn & Stains, 1984), data from 1989, 1998 & 2006 are drawn from the General Social Survey (Davis, Smith and Marsden, 2009)

See Appendix 3.1 (pp. 75-76) for details on the categories of the work pace question for each year.

Occupational categories were constructed using the 1980 Census occupational classification system. White-collar workers include those employed in managerial, professional or technical occupations. Blue-collar workers are employed in craft or operative occupations.

statistically significant at the .001 level. Note however, a downward trend is present in the years drawn from the 1970s as well. African-Americans and whites were, respectively, about 10% and 7% less likely to claim satisfaction with the pace of work in 1977 than in 1970.

There appear to be very few differences in self-assessments between categories of educational attainment in the first three years of the series. However, high school graduates do appear to express slightly more optimism than their college educated counterparts. Indeed, in the final three years under consideration the proportion of high school graduates expressing satisfaction with work pace hovered in the mid-20s. The corresponding proportions for college graduates were about 5% to 15% lower. Further, a difference in differences test suggests that the decline in sentiments among flexible production college graduates was, indeed, steeper than the decline for flexible production high school graduates. Finally, the – by now familiar – pattern of slow deterioration in sentiments over the 1970s, coupled with dramatically lower rates of satisfaction in later years is also present when the data are broken down by educational attainment.

Table 6.2 suggests older workers are more likely to express satisfaction with the pace of work relative to their younger peers. However all age groups show the same familiar pattern of decline over time. Sentiments regarding workloads underwent a slow deterioration in the 1970s, followed by a dramatic drop-off at some point prior to 1989 for young and old workers alike. Yet, there is some evidence suggesting that deterioration in sentiments was steeper among older workers. The only year in which workers in the youngest age category (less than 28) express more satisfaction with work pace than workers in either of the two "older" categories is 2006 – the final year under consideration. Younger flexible production workers were 56.9% less likely to positively self-assess on the work pace variable. Among the oldest workers the percentage decline was a steeper 59.4%. Further, a difference in differences test reveals this gap (2.5%) to be statistically significant at the

.001 level. This finding suggests that self-assessments of older workers deteriorated more rapidly than the assessments of their younger counterparts.

Somewhat curiously, low earners (those earning less than $20,000/year) express greater satisfaction with the pace of work than do their higher earning counterparts. In the first three years under consideration the gap between low and high earners self-assessments of work pace is not particularly large (3%-8%). However, in the final three years under study, low-earners are 7%-10% more likely to express satisfaction relative to high earners ($60,000+/annually). The familiar pattern of slow deterioration in sentiments over the 1970s, followed by large drops in later years holds when workers are broken up by earnings category as well. However, the modest declines in reported satisfaction observed for the 1970s seem to be concentrated among higher-earners. Indeed, workers in the lowest earnings category were only 1% less likely to positively self-assess on the work pace variable in 1977 than in 1970. The corresponding decline among workers in the highest earnings category was a somewhat larger 6%.

There appear to be few differences between the ways in which workers belonging to different occupational categories express satisfaction with work pace. If anything, white-collar workers may express slightly more pessimistic assessments in the final three years of data than do respondents in different lines of work. For example, white-collar flexible production workers were 64.7% less likely to positively self-assess on the work pace variable than were white-collar accord-era workers. On the other hand, the across-"era" decline among blue-collar workers is 58.3%. A difference in differences test reveals the gap (6.4%) between the deterioration in sentiments for white- and blue-collar workers is statistically significant at the .001 level. Nevertheless, for all occupational categories, rates of satisfaction in the final three years of the series are dramatically lower than those recorded for the

1970s. Further, all occupational groups, with the exception of clerical workers, experienced a modest deterioration in sentiments over the 1970s.

Summary: Trends in Satisfaction with Work Intensity

The descriptions presented above strongly suggest contemporary workers express less satisfaction with both workloads and the pace of work relative to their 1970s counterparts. While these trends are likely attributable, in part, to the different sources of data used to construct these measures, there is still some evidence that a decline in positive sentiments was underway prior to 1989 – the first year in which the survey questions used to construct my measures of work intensity were different (see Appendix 3.1, pp. 75-76).

Control Variables

However, there is also reason to believe that some categories of workers (race, age, occupation) experienced changes in work intensity differently. Table 6.3 presents the results of the difference in differences test conducted above to illustrate this point. Because different types of workers vary in the way they formulate subjective assessments of work intensity, it is possible that the large declines in positive self-assessments over the period under consideration may be a reflection in changes in the composition of the labor force. In order to account for this possibility, it is necessary to specify a set of models that will control for labor force characteristics in a multivariate fashion.

This chapter will follow the same format as presented in Chapters 4 and 5. For both measures of worker well-being (workload and work pace), I will specify a total of four models. I begin by regressing workers' self-assessments of work-loads and work-pace on a set of dummy variables representing the year from which each observation was drawn (and a set of controls) using a logistic regression model (Models 1 & 2). Next, to better account for the ranked nature of my dependent

Dependent Variable	*Group Differenced*	*t*
Work Load	Men - Women	-1.35
Work Load	White – African American	1.76
Work Load	College – High School	-3.21**
Work Load	Older - Younger	2.25*
Work Pace	Men - Women	.799
Work Pace	White – African American	4.09***
Work Pace	College – High School	3.36***
Work Pace	Older - Younger	143.82***
Work Pace	White Collar – Blue Collar	12.99***

Table 6.3 – Difference in Differences Tests for Demographic Categories Across Time
Note: Negative t-scores suggest that improvements/deteriorations in sentiments were steeper among the "subtracted" group. For example, because the deterioration in Women's sentiments of work load is being subtracted from men's, the negative t-score (-1.35) suggests women's sentiments deteriorated at a more rapid pace than did men's.
Significant t-scores suggest that the rate at which sentiments improved (or deteriorated) over time differed for each demographic division.
**p < .05; **p < .01; ***p < .001(two-tailed tests)*
Positive t-scores suggest the minuend category rose/fell faster than the subtrahend category. Negative t-scores suggest the opposite.

variables, I construct an additional set of models (Models 3 & 4) using a Stereotype Logit framework. As in the previous 2 chapters, I include an appendix detailing the findings of a supplementary analysis using an ordered probit model framework. In addition to presenting the findings of the OPM regressions, I test for violations of the parallel regression assumption (discussed in Appendix 4.1, pp. 117-118). The likelihood-ratio tests presented in Appendix 6.1 suggest the ordered probit model is, indeed, in violation of the parallel regression assumption when applied to my data. Thus, while the ordered probit may be a more commonly used method of analyzing ordered dependent variables, it is an inappropriate methodological selection for the analyses presented in this chapter.

In order to avoid excessive redundancy, I have opted to omit a detailed explanation of the above listed methods. Instead, I again refer the reader to Chapter 4 for a description of the logistic regression model (pp. 101-102) and the stereotype logit model (pp. 102-104). Finally, the control variables used in models 2 & 4 are identical to the controls used in Chapter 4 & 5. These controls

include measures for worker sex, race, age, educational attainment, occupation and earnings (see Chapter 4, pp. 98-99 for a description of control variables).

Findings: Models 1 & 2 (Logistic Regression Models)

Tables 6.4a & 6.4b report the findings for Models 1 & 2. Note that in Table 6.4a & 6.4b positive coefficients suggest an improvement of worker self-assessments over time whereas negative coefficients suggest deterioration.

Satisfaction with Workload

Models 1 and 2 suggest workers in the latter years of my analysis are more likely to negatively assess workloads than were workers in the 1970s. Perceptions of workloads, relative to the baseline year, steadily deteriorate over the period 1973 – 1998. Self-assessments of workloads appear to rebound somewhat in 2006, but remain well-below their 1970s levels. While the year coefficients for the last three years (1989, 1998 & 2006) are particularly large in magnitude, self-assessments of workloads appear to have declined over the 1970s as well.

The addition of labor force composition variables in Model 2 does little to attenuate the overall trend over time in worker perceptions of workloads reported in Model 1. Both models suggest a slow erosion in worker sentiments over the 1970s, followed by dramatically more pessimistic assessments in the final three years.

Satisfaction with the Pace of Work

As is evident from Table 6.4b, the year coefficients for the work pace models strongly mirror the results of the workloads models presented above. Workers sentiments surrounding the pace of work appear to slowly deteriorate over the 1970s, before dramatically plummeting in 1989. As was the case for the workloads variable, Models 1 & 2 suggest a possible rebound in the direction of

Variable	Model 1 Estimate	Robust se	t-value	Model 2 Estimate	Robust se	t-value
1970		**Base Year**			**Base Year**	
1973	-.140	.089	-1.58	-.136	.099	-1.38
1977	-.420	.086	-4.90***	-.349	.103	-3.38***
1989	-2.93	.118	-24.89***	-3.09	.136	-22.82***
1998	-3.24	.130	-24.85***	-3.44	.151	-22.87***
2006	-2.87	.109	-26.42***	-3.09	.141	-21.84***
Age				-.017	.017	-.99
Age²				.000	.000	1.74
Male		**Reference Category**			**Reference Category**	
Female				-.238	.091	-2.61**
White		**Reference Category**			**Reference Category**	
African American				-.179	.123	-1.45
Other Race				-.073	.206	-.35
L/T High School				-.056	.104	-.54
High School		**Reference Category**			**Reference Category**	
Some College				-.165	.098	-1.69
College Grad				.075	.137	.54
G/T College				-.066	.149	-.44
Full-Time		**Reference Category**			**Reference Category**	
Part-Time				.617	.139	4.44***
Management		**Reference Category**			**Reference Category**	
Prof/Tech				.288	.137	2.11*
Sales				.322	.178	1.80
Clerical				.322	.145	2.23*
Crafts				-.042	.139	-.30
Operatives				-.060	.151	-.40
Transportation				.125	.192	.65
Non-Farm Labor				-.327	.220	-1.49
Farmers				-1.21	.388	-3.11**
Farm Labor				.017	.477	.04
Service				.204	.162	1.26
Private Household				-.376	.506	-.74
L/T 10,000		**Reference Category**			**Reference Category**	
10,000 – 20,000				-.159	.168	-.95
20,000 – 30,000				.001	.169	.01
30,000 – 40,000				-.161	.177	-.91
40,000 – 50,000				-.169	.191	-.89
50,000 – 60,000				-.271	.208	-1.30
60,000 – 70,000				-.346	.257	-1.34
70,000 – 80,000				.033	.279	.12
G/T 80,000				-.617	.256	-2.41*
Intercept	1.09	.061	17.87	1.31	.376	3.48

Table 6.4a – Logistic Regression Model Results – Work Load

Positive coefficients suggest more optimistic assessments of workloads; Negative coefficients suggest more pessimistic assessments of workloads.

White is the reference category for race. High school graduate is the reference category for education. Management is the reference category for occupation. Less than $10,000 is the reference category for earnings. Age² a squared term.

**p < .05; **p < .01; ***p < .001(two-tailed tests)*

Variable	Model 1 Estimate	Robust se	t-value	Model 2 Estimate	Robust se	t-value
1970		**Base Year**			**Base Year**	
1973	-.131	.101	-1.30	-.037	.113	-.33
1977	-.409	.096	-4.24***	-.349	.115	-3.04**
1989	-3.14	.116	-27.15***	-3.34	.133	-25.04***
1998	-3.24	.119	-27.12***	-3.55	.147	-24.24***
2006	-2.89	.105	-27.69***	-3.32	.139	-23.83***
Age				-.003	.022	-.15
Age²				.000	.000	.95
Male		**Reference Category**			**Reference Category**	
Female				-.131	.095	-1.38
White		**Reference Category**			**Reference Category**	
African American				-.045	.134	-.34
Other Race				.305	.186	1.64
L/T High School				-.113	.112	-1.00
High School		**Reference Category**			**Reference Category**	
Some College				-.020	.101	-.19
College Grad				.054	.136	.39
G/T College				-.144	.150	-.96
Full-Time		**Reference Category**			**Reference Category**	
Part-Time				.526	.137	3.83***
Management		**Reference Category**			**Reference Category**	
Prof/Tech				.055	.136	.40
Sales				.421	.168	2.51*
Clerical				.321	.146	2.20*
Crafts				.352	.147	2.39*
Operatives				.292	.172	1.70
Transportation				.290	.200	1.45
Non-Farm Labor				.293	.252	1.16
Farmers				-.433	.437	-.99
Farm Labor				.916	.748	1.22
Service				.111	.164	.68
Private Household				1.00	.484	2.07*
L/T 10,000		**Reference Category**			**Reference Category**	
10,000 – 20,000				-.559	.162	-3.45***
20,000 – 30,000				-.558	.166	-3.47***
30,000 – 40,000				-.874	.177	-4.93***
40,000 – 50,000				-.919	.190	-4.83***
50,000 – 60,000				-.872	.208	-4.18***
60,000 – 70,000				-1.30	.258	-5.05***
70,000 – 80,000				-.977	.279	-3.50***
G/T 80,000				-1.46	.240	-6.09***
Intercept	1.55	.070	22.28	1.84	.449	4.10

Table 6.4b – Logistic Regression Model Results – Work Pace

Positive coefficients suggest more optimistic assessments of work pace; Negative coefficients suggest more pessimistic assessments of work pace.

White is the reference category for race. High school graduate is the reference category for education. Management is the reference category for occupation. Less than $10,000 is the reference category for earnings. Age² a squared term.

**p < .05; **p < .01; ***p < .001(two-tailed tests)*

optimism in 2006 – but self-assessments in the latter three years of the series remain decisively more pessimistic than those for the 1970s.

The addition of control variables (Model 2) does not change the interpretation of the results. The same general trend of slow erosion in the 1970s followed by dramatic increases in worker pessimism beginning in 1989 emerges when labor force composition is controlled for. Both Models 1 & 2 strongly suggest contemporary workers are much more likely to express pessimism, relative to their 1970s counterparts, when asked to evaluate the pace at which they must work.

An Alternative Model Specification: The Stereotype Logit Model (SLM)

Tables 6.5a & 6.5b report the results of Models 3 & 4 for worker perceptions regarding workload and work pace, respectively. Note the year coefficients for Models 3 & 4 are similar to those reported for Models 1 & 2. Both sets of models (Models 1 & 2 as well as Models 3 & 4) suggest similar patterns over time in worker self-assessments of both workload and work pace.

Satisfaction with Workload

Model 3 suggests a general trend in the direction of pessimism when assessing subjective perceptions of workloads. While the year coefficients for the latter three years are more strongly negative, there is evidence of a decline in sentiments over the 1970s as well. Model 4 suggests a narrative similar to that of Model 3 – the addition of controls does little to attenuate the overall findings. Both Models 3 & 4 suggest that in recent years workers expressed decidedly more negative sentiments regarding workloads than did their 1970s counterparts.

Variable	Model 3 Estimate	Robust se	t-value	Model 4 Estimate	Robust se	t-value
1970		**Base Year**			**Base Year**	
1973	-.389	.096	-4.04***	-.338	.117	-2.88**
1977	-.661	.095	-6.94***	-.704	.124	-5.66***
1989	-3.88	.163	-23.74***	-4.99	.258	-19.31***
1998	-4.25	.183	-23.18***	-5.63	.323	-17.42***
2006	-2.92	.107	-27.22***	-5.02	.281	-17.88***
Age				.001	.022	.03
Age^2				.000	.000	1.34
Male		**Reference Category**			**Reference Category**	
Female				-.367	.121	-3.03**
White		**Reference Category**			**Reference Category**	
African American				-.214	.162	-1.32
Other Race				-.016	.317	-.05
L/T High School				.083	.136	.61
High School		**Reference Category**			**Reference Category**	
Some College				-.058	.127	-.46
College Grad				-.023	.172	-.13
G/T College				-.107	.197	-.54
Full-Time		**Reference Category**			**Reference Category**	
Part-Time				.942	.189	4.99***
Management		**Reference Category**			**Reference Category**	
Prof/Tech				.275	.175	1.57
Sales				.499	.232	2.15*
Clerical				.363	.185	1.96*
Crafts				.031	.182	.17
Operatives				.036	.199	.18
Transportation				.343	.252	1.36
Non-Farm Labor				-.378	.298	-1.27
Farmers				-1.52	.605	-2.52**
Farm Labor				.547	.654	.84
Service				.134	.214	.63
Private Household				-.278	.644	-.43
L/T 10,000		**Reference Category**			**Reference Category**	
10,000 – 20,000				-.085	.238	-.36
20,000 – 30,000				.089	.240	.37
30,000 – 40,000				-.168	.250	-.67
40,000 – 50,000				-.297	.265	-1.12
50,000 – 60,000				-.375	.284	-1.32
60,000 – 70,000				-.635	.345	-1.84
70,000 – 80,000				.103	.382	.27
G/T 80,000				-.911	.351	-2.60**
φ_{1_1}	1	(Constrained)		1	(Constrained)	
φ_{1_2}	.673	.023	29.07	.526	.027	19.68
φ_{1_3}	.066	.021	3.18	.061	.018	3.43
φ_{1_4}	0	(Base Outcome)		0	(Base Outcome)	
θ_1	1.32	.077	17.22	.994	.494	2.01
θ_2	1.19	.066	18.07	1.14	.267	4.28
θ_3	.208	.063	3.33	.489	.076	6.43
θ_3	0	(Base Outcome)		0	(Base Outcome)	

Table 6.5a – Stereotype Logit Model Results – Work Load

Positive coefficients suggest more optimistic assessments of workloads; Negative coefficients suggest more pessimistic assessments of workloads.

White is the reference category for race. High school graduate is the reference category for education. Management is the reference category for occupation. Less than $10,000 is the reference category for earnings. Age^2 a squared term.

**p < .05; **p < .01; ***p < .001(two-tailed tests)*

Variable	Model 3 Estimate	Robust se	t-value	Model 4 Estimate	Robust se	t-value
1970		**Base Year**			**Base Year**	
1973	-.234	.119	-1.96*	-.184	.144	-1.28
1977	-.741	.115	-6.45***	-.625	.149	-4.20***
1989	-4.41	.165	-26.75***	-4.86	.214	-22.70***
1998	-4.42	.166	-26.65***	-5.04	.222	-22.67***
2006	-3.86	.125	-30.83***	-4.80	.225	-21.37***
Age				.002	.028	.09
Age^2				.000	.000	.93
Male		**Reference Category**			**Reference Category**	
Female				-.257	.125	-2.06*
White		**Reference Category**			**Reference Category**	
African American				.060	.177	.34
Other Race				.552	.256	2.15*
L/T High School				.009	.152	.06
High School		**Reference Category**			**Reference Category**	
Some College				.019	.130	.14
College Grad				.042	.173	.24
G/T College				-.314	.193	-1.62
Full-Time		**Reference Category**			**Reference Category**	
Part-Time				.779	.178	4.39***
Management		**Reference Category**			**Reference Category**	
Prof/Tech				.040	.174	.23
Sales				.556	.224	2.48*
Clerical				.446	.188	2.37*
Crafts				.542	.190	2.85**
Operatives				.499	.223	2.24**
Transportation				.443	.264	1.68
Non-Farm Labor				.328	.324	1.01
Farmers				-.737	.610	-1.21
Farm Labor				1.17	.911	1.28
Service				.217	.216	1.00**
Private Household				1.75	.632	2.77**
L/T 10,000		**Reference Category**			**Reference Category**	
10,000 – 20,000				-.830	.218	-3.80***
20,000 – 30,000				-.823	.220	-3.73***
30,000 – 40,000				-1.21	.236	-5.14***
40,000 – 50,000				-1.33	.254	-5.26***
50,000 – 60,000				-1.40	.276	-5.06***
60,000 – 70,000				-1.82	.323	-5.46***
70,000 – 80,000				-1.54	.372	-4.14***
G/T 80,000				-2.20	.321	-6.86***
φ_{1_1}	1	(Constrained)		1	(Constrained)	
φ_{1_2}	.747	.018	40.72	.720	.023	30.83
φ_{1_3}	.189	.019	9.94	.193	.020	9.45
φ_{1_4}	0	(Base Outcome)		0	(Base Outcome)	
θ_1	2.22	.099	22.48	2.43	.578	4.20
θ_2	2.15	.088	24.47	2.34	.423	5.53
θ_3	.950	.080	11.85	1.03	.149	6.89
θ_3	0	(Base Outcome)		0	(Base Outcome)	

Table 6.5b - Stereotype Logit Model Results – Work Pace

Positive coefficients suggest more optimistic assessments of work pace; Negative coefficients suggest more pessimistic assessments of work pace.

White is the reference category for race. High school graduate is the reference category for education. Management is the reference category for occupation. Less than $10,000 is the reference category for earnings. Age^2 a squared term.

**p < .05; **p < .01; ***p < .001(two-tailed tests)*

Satisfaction with the Pace of Work

Model 3 suggests workers subjective assessments of work pace have become decidedly more negative over the years under study. The familiar pattern described above – slow deterioration in sentiments, followed by a dramatic decline first evident in 1989 – is present in Model 3 as well. The addition of control variables (Model 4) does not attenuate these findings. Indeed, both Models 3 & 4 suggest a story similar to Models 1 & 2 – contemporary workers are much less likely to positively self-assess on the work pace variable than were their 1970s counterparts.

Summary of Findings

My findings suggest contemporary workers confer more negative assessments to both the amount of work they are assigned, and the pace at which they perform their duties. Models 1-4 strongly suggest contemporary workers are less likely to positively assess both workloads and work pace. These findings are largely consistent with the pessimistic account of workplace transformation. Table 6.6 summarizes these findings.

These findings should however be interpreted with caution. The measures available for the workload and work pace variables were plagued with numerous problems. Chief among these was the dissimilarity in wording across survey questions. Accord-era workers were asked to evaluate whether they perform "excessive amounts of work" (workload), and whether they have "enough time to get the job done" (work pace). Flexible production-era workers, on the other hand, were asked how frequently they "came home from work exhausted" (work load), and whether they find their work "stressful" (work pace). The findings I present here almost certainly reflect these dissimilarities.

Dependent Variable	Trend in Worker Assessments (relative to 1970)
Work Load	More Negative
Work Pace	More Negative

Table 6.6: Summary of Chapter 6 Findings

Appendix 6.1

As noted in Chapter 4, the ordered probit is a commonly used method for modeling ordinal dependent variables. However, the ordered probit model also makes assumptions that have been shown to be frequently violated in practice. For a more detailed description of the ordered probit model see Appendix 4.1 (pp. 115-116). Here, I will assess the extent to which two ordered probit models constructed from my data (Models A6.1 & A6.2) are in violation of model assumptions.

Assessing the Ordered Probit Model: The Parallel Regression Assumption

Recall the ordered probit model assumes constant beta coefficients across all J categories of the dependent variable. In this section I will report the results of a series of likelihood-ratio tests intended to test whether the parallel regression assumption is violated in Models A6.1 & A6.2.

Dependent Variable	$X^2(68)$	Prob > X^2
Work Load	557.00	.000***
Work Pace	338.76	.000***

Table A6.1 - Likelihood-Ratio Tests of the Parallel Regression Assumption (Model A2)
Large values of X^2 suggest violations of the parallel regression assumption.
**p < .05; **p < .01; ***p < .001*

Table A6.1 reports the results of the likelihood-ratio tests. Note that for each model of worker well-being the likelihood-ratio tests suggest a violation of the parallel regression assumption. In no case, is the X^2 generated by the likelihood-ratio tests sufficiently small so as to warrant a conclusion of constant beta coefficients across categories. These findings suggest Models A6.1 & A6.2 are, indeed, in violation of the parallel regression assumption. This evidence of beta coefficient inconsistency across all categories of the dependent variable served as my motivation to construct models using a Stereotype Logit framework. Unlike the ordered probit model, SLM is not subject to the parallel regression assumption. Hence, when evidence of beta coefficient variance across categories is manifest in the OPM, the SLM is, arguably, a more appropriate methodological choice.

Nevertheless, for the sake of consistency and comprehensiveness I report the results of Models A6.1 and A6.2 below.

Findings: Models A6.1 & A6.2 (Ordered Probit Models)

Tables A6.2 & A6.3 report the findings for Models A6.1 & A6.2. Note that in Table A6.2 & A6.3 positive coefficients suggest an improvement of worker self-assessments over time, whereas negative coefficients suggest deterioration.

Satisfaction with Workload

Models A6.1 and A6.2 suggest workers in the latter years of my analysis are more likely to be dissatisfied with workloads relative to workers from earlier periods. Worker perceptions of workload, relative to the baseline year, steadily deteriorate over the period 1973 – 1998. Self-assessments regarding workloads do appear to rebound slightly in 2006, however workers in this year remain more pessimistic in this respect when compared to workers in 1970.

Satisfaction with the Pace of Work

Models A6.1 and A6.2 suggest an overall deterioration in worker satisfaction with the pace at which work is performed relative to 1970. Worker perceptions of the pace of work, relative to the baseline year, steadily deteriorate over the period 1973 – 1998. Models A6.1 and A6.2 suggest workers were slightly more optimistic in 2006 than in 1989/1998 (relative to 1970). Nevertheless, dissatisfaction with work pace in 2006 appears to be well above the baseline (1970) levels. This finding suggests an erosion of worker well-being over time on the work pace domain of self-assessed job quality. Further, my finding of a deterioration in workers' self-assessments of satisfaction with the pace

Variable	Model A6.1 Estimate	Robust se	t-value	Model A6.2 Estimate	Robust se	t-value
1970		**Base Year**			**Base Year**	
1973	-.182	.040	-4.53***	-.156	.041	-3.85***
1977	-.306	.040	-7.69***	-.280	.040	-6.94***
1989	-1.36	.047	-28.65***	-1.38	.049	-28.53***
1998	-1.46	.048	-30.05***	-1.50	.051	-29.59***
2006	-1.28	.036	-35.34***	-1.32	.039	-33.89***
Age				.001	.005	.12
Age²				.000	.000	1.52
Male		**Reference Category**			**Reference Category**	
Female				-.105	.029	-3.68***
White		**Reference Category**			**Reference Category**	
African American				-.034	.039	-.88
Other Race				-.011	.053	-.21
L/T High School				-.016	.035	-.45
High School		**Reference Category**			**Reference Category**	
Some College				.026	.032	.80
College Grad				.053	.043	1.25
G/T College				-.001	.048	-.02
Full-Time		**Reference Category**			**Reference Category**	
Part-Time				.204	.038	5.40***
Management		**Reference Category**			**Reference Category**	
Prof/Tech				-.019	.044	-.42
Sales				-.016	.045	-.35
Clerical				-.063	.047	-1.33
Crafts				-.109	.053	-2.04*
Operatives				-.157	.057	-2.74**
Transportation				-.112	.078	-1.44
Non-Farm Labor				-.037	.077	-.48
Farmers				-.248	.069	-3.60***
Farm Labor				.087	.042	2.06*
Service				.203	.054	3.75***
Private Household				.186	.046	4.04***
L/T 10,000		**Reference Category**			**Reference Category**	
10,000 – 20,000				.042	.047	.90
20,000 – 30,000				.036	.052	.70
30,000 – 40,000				.117	.070	1.68
40,000 – 50,000				.020	.071	.28
50,000 – 60,000				-.232	.099	-2.35*
60,000 – 70,000				-.058	.153	-.38
70,000 – 80,000				.023	.048	.47
G/T 80,000				.165	.120	1.38
τ_1	-.233	.029	-8.03	-.418	.114	-3.67
τ_2	.614	.030	20.47	.440	.114	3.86
τ_3	1.49	.032	46.56	1.32	.114	11.58

Table A6.2 – Ordered Probit Model Results – Work Load

Positive coefficients suggest more optimistic assessments of workloads; Negative coefficients suggest more pessimistic assessments of workloads.

White is the reference category for race. High school graduate is the reference category for education. Management is the reference category for occupation. Less than $10,000 is the reference category for earnings. Age² a squared term.

**p < .05; **p < .01; ***p < .001(two-tailed tests)*

Variable	Model A6.1 Estimate	Robust se	t-value	Model A6.2 Estimate	Robust se	t-value
1970		**Base Year**			**Base Year**	
1973	-.090	.041	-2.20*	-.044	.041	-1.07
1977	-.292	.040	-7.26***	-.248	.041	-6.07***
1989	-1.66	.048	-34.41***	-1.71	.050	-34.40***
1998	-1.65	.049	-33.60***	-1.71	.051	-33.41***
2006	-1.50	.037	-40.53***	-1.58	.040	-39.35***
Age				-.008	.005	-1.54
Age²				.000	.000	3.18**
Male		**Reference Category**			**Reference Category**	
Female				-.090	.029	-3.15**
White		**Reference Category**			**Reference Category**	
African American				.126	.039	3.25**
Other Race				.160	.053	3.03**
L/T High School				.001	.036	.04
High School		**Reference Category**			**Reference Category**	
Some College				.008	.032	.23
College Grad				-.016	.043	-.37
G/T College				-.120	.048	-2.48*
Full-Time		**Reference Category**			**Reference Category**	
Part-Time				.259	.038	6.86***
Management		**Reference Category**			**Reference Category**	
Prof/Tech				-.224	.045	-5.03***
Sales				-.245	.045	-5.45***
Clerical				-.339	.047	-7.15***
Crafts				-.375	.053	-7.02***
Operatives				-.423	.058	-7.33***
Transportation				-.405	.078	-5.18***
Non-Farm Labor				-.414	.077	-5.37***
Farmers				-.554	.069	-7.99***
Farm Labor				-.029	.043	-.69
Service				.174	.054	3.19**
Private Household				.081	.046	1.76
L/T 10,000		**Reference Category**			**Reference Category**	
10,000 – 20,000				.136	.047	2.91**
20,000 – 30,000				.130	.052	2.50*
30,000 – 40,000				.102	.070	1.46
40,000 – 50,000				.157	.071	2.21*
50,000 – 60,000				-.224	.098	-2.29*
60,000 – 70,000				.152	.154	.99
70,000 – 80,000				.035	.048	.73
G/T 80,000				.448	.123	3.63***
τ_1	-.123	.029	-4.24	.057	.114	.50
τ_2	.849	.031	27.39	1.06	.115	9.22
τ_3	1.88	.034	55.29	2.12	.116	18.28

Table A6.3 – Ordered Probit Model Results – Work Pace

Positive coefficients suggest more optimistic assessments of work pace; Negative coefficients suggest more pessimistic assessments of work pace.

White is the reference category for race. High school graduate is the reference category for education. Management is the reference category for occupation. Less than $10,000 is the reference category for earnings. Age² a squared term.

**p < .05; **p < .01; ***p < .001(two-tailed tests)*

at which work is performed is robust to the inclusion of labor force composition controls (Model A6.2).

Chapter 7

The Effects of the Transition to Flexible Production on Worker Well-Being

The findings I present in Chapters 4, 5, and 6 are cause for concern. On the whole, my results suggest contemporary workers are substantially more dissatisfied on most dimensions of well-being when compared to workers in the 1970s. In the following pages I will summarize my findings. Finally, I will discuss why worker perceptions of well-being have eroded, and what might be done to restore job satisfaction to the levels common in the era of labor-capital accord. In the following pages, I will first summarize my findings and then discuss why worker sentiments of well-being may have deteriorated over-time.

Diminished Satisfaction with Job Security

First, I find contemporary workers, on average, assess job security more negatively than did their 1970s counterparts. While my findings may be cause for concern, I cannot claim my results were unexpected. Employment security is, perhaps, the most widely studied perceptual domain of worker well-being, and my results are consistent with prior findings (see particularly, Fullerton & Wallace, 2006; Schmidt, 1999). A general consensus is building around the idea that the dismantling of the reciprocity-based contract between workers and management has negatively affected the stability of employment. The expansion of non-standard forms of work (Katz, 1997; Callaghan & Hartmann, 1991; Belous, 1989), increases in involuntary job separations (Polsky, 1999; Vallletta, 1999; Bernhardt et al, 1999), the dismantling of internal labor markets (Useem & Cappelli, 1997; Cappelli, 1995; Osterman, 1994), and a greatly weakened labor movement (Rosenfeld, 2014; Godard, 2009; Clawson & Clawson, 1999) can all be seen as manifestations of a human resource strategy that

emphasizes a short-term, transactional, orientation towards the employment relationship. It is not difficult to envisage how such trends in employment relations might adversely affect workers' perceptions of job security.

Further, the consequences of the dismantling of the labor-capital accord likely extend beyond the realm of job insecurity. For the vast majority of Americans a job represents more than a way to put food on the table. In addition to providing a means to acquire basic necessities, a good, steady job provides a foundation upon which to build a future. Steady employment provides the foothold upon which many families pay medical bills, finance their children's college education and save for retirement. Without this bedrock, planning for the future will likely be fraught with greater uncertainty.

Diminished Satisfaction with Pay

Second, I find contemporary workers express less satisfaction with earnings than did their 1970s counterparts. Further, as I note in Chapter 4, the deterioration in worker sentiments of pay is robust to the inclusion of a measure of objective earnings. Thus my findings suggest workers drawn from the era of flexible production are less likely to report satisfaction with pay than were accord-era workers – even among workers with similar earnings. In the following pages I will discuss some of the factors that may have contributed to less optimistic assessments among flexible production workers, even after accounting for the effects of objective earnings on subjective assessments.

One possible explanation for deteriorating sentiments of satisfaction with pay appeals to a literature documenting a (roughly) 40-year stagnation in median earnings. For example, Goldin and Katz (2007) found that inflation-adjusted rates of wage growth have averaged less than 1 percent per year since 1973. Stagnant wages may generate unhappiness, particularly among older workers, because people likely have higher expectations regarding appropriate levels of compensation as they gain

experience and human capital. Indeed, a long-standing literature, tracing its origins to Becker's widely cited (1964) book, theorizes that productivity enhancements in human capital (e.g. education, experience, on-the-job training) should be associated with higher individual earnings. However, Mishel et al (2012) show that the American economy has become 80.4% more productive over the period 1975-2010, yet median wages during this period increased by only 10.7% (with much of that increase confined to a few years in the late 1990s). Perhaps the uptick in pessimism among American workers' sentiments of pay stems from a realization that investments in human capital are no longer bearing fruit. One could easily imagine a scenario in which workers making sacrificial investments in order to enhance their own productivity might express pessimism if those investments were not accompanied by a commensurate increase in earnings.

Another possible explanation for declining sentiments of satisfaction with pay pivots on the relationship between subjective well-being and inequality. For example, Alveredo et al (2010) report that earnings among those situated at the top 1% of the income distribution have more than doubled since 1970. Hence, in addition to wage stagnation at the median, the earnings distribution has undergone a rather dramatic increase in dispersion since the mid-70s. Much of the discussion of the effects of inequality on subjective assessments of well-being is consistent with my findings of declining levels of subjective satisfaction with pay over time. Indeed, much of the prior scholarship on the topic suggests that inequality is negatively associated with measures of subjective well-being.

Studies of the effects of earnings inequality on assessments of subjective well-being are a relatively recent development in the field of happiness studies, however, the notion that relative position matters more than absolute position is a much older idea. Indeed, Stouffer et al (1949) found that soldiers' feelings of dissatisfaction had less to do with actual hardships encountered than with the hardships encountered by the groups to which they compared themselves. Merton and Kitt (1950)

formalized this concept of relative deprivation revealed by Stouffer et al by placing it in the broader context of reference group theory. The basic idea is that people compare themselves to others when evaluating their own well-being (Hyman, 1968; Kelly, 1968). More recently, laboratory experiments in the field of behavioral economics have shown that, under certain conditions, people will choose to be better off than everyone else, rather than everyone having absolutely more (Frank, 1997; Tversky and Griffin, 1991; Smith et al, 1989). Hence, it would appear that one's relative position is more important than one's objective positon in an overall distribution of outcomes when making assessments of subjective well-being.

The idea of relative deprivation provides an interesting context within which to interpret the results I present in my dissertation. One might think that since average real incomes have remained steady since the early 1970s, trends in subjective assessments of satisfaction with pay should exhibit similar stability. Yet my findings suggest this was not the case. Instead, I find worker sentiments regarding satisfaction with earnings experienced erosion over the thirty-six year period under consideration. This erosion may have come about because workers tend to compare themselves to those who occupy high ranking positions in the earnings distribution. However, as those at the top of the earnings distribution became increasingly wealthy over time, the relative position of the average worker suffered. Indeed, there are a handful of more recent studies that suggest that increases in inequality do generate downward pressure on subjective assessments of well-being.

For example, Graham and Felton (2006) find sizable and consistent effects of relative income differences on subjective assessments of well-being in a study of eighteen Latin American nations. Graham and Felton (2006) show that poor Hondurans are about a half a percent happier on a scale of subjective well-being than are their Chilean counterparts – despite the fact that average incomes among poor Chileans are about twice as high as those of poor Hondurans. They attribute this to

differences in earnings inequality across the two nations. Income is distributed more unequally in Chile than in Honduras, hence Graham and Felton conclude that (at least in Latin America) relative position within the earnings distribution exerts a stronger effect on assessments of subjective well-being than does actual (objective) earnings. Brockman et al (2009) corroborate these findings in their study on Chinese assessments of subjective well-being. China experienced a dramatic improvement in material standards of living over the 1990s, yet subjective assessments of well-being among the Chinese people remained stable. Brockman et al (2009) conclude that increases in earnings inequality, coupled with the ostentatious display of new wealth, were responsible for the stability of subjective assessments of well-being, despite the rapid economic progress made by the country writ large.

While it is clear that economic inequality has increased over time (and this increase may have a negative effect on workers' self-assessments of well-being) the mechanisms underlying these trends are not fully understood. Some scholars claim greater variance in the distribution of earnings is attributable to technological change. They suspect technologies such as computerization and automation have been deployed in such a manner as to de-skill – and in some cases render obsolete – human labor. Furthermore, these same technologies are claimed to have increased the returns to specialized knowledge. Persons who have developed the skills to manipulate new forms of technology may be better able to command a higher wage in exchange for their specialized knowledge. In other words, technological change is biased in favor of high-skilled workers (Lemieux, 2008; Acemoglu, 2002; Levy & Murnane, 1992; Katz & Murphy, 1992).

However, the skills-biased technological change (SBTC) thesis appears to do a better job of explaining why earnings have stagnated among workers situated in the middle, and bottom, of the wage distribution than it does explaining why earnings at the top have grown so dramatically. For

example, the ratio of median earnings to earnings at the 10th percentile (the 50:10 ratio) increased in the 1980s, but has since leveled off (Goldin & Katz, 2007). The stall in the growth of inequality at the bottom of the earnings distribution may be attributable to technological saturation. By 1990, it is plausible that most jobs amenable to technology-driven de-skilling had already been re-engineered (Machin, 2001). Yet, the returns to those at the top of the earnings distribution continued to increase, relative to the median, post-1990. If SBTC was, in fact, responsible for increased earnings inequality, then why did growth in inequality at the top of the distribution continue unabated whereas growth in inequality at the bottom stalled?

An additional critique of the SBTC thesis relies on international comparisons of earnings inequality. For example, much of Western and Northern Europe experienced far lower rates of growth in inequality. Nevertheless, these countries experienced the same (or at least similar) technological change as did the United States. If increased earnings dispersion is solely attributable to skill-biased technological change, then why is there so much variation in the extent to which countries experience inequality? An alternative explanation for these divergent trends invokes the notion of (non-market) wage-setting institutions (Wallerstein, 1999; Gottschalk & Smeeding, 1997; Gordon, 1996; Blau & Kahn, 1994). Unions are a prime example of such institutions. Via collective bargaining, strong unions may be able to impose above-market wages on employers – reducing inequality, particularly at the lower end of the earnings distribution. Many critics of the SBTC hypothesis claim cross-national differences in earnings distributions are likely attributable to variation in the relative strength of such non-market wage setting institutions. For example, rates of unionization in much of Europe are substantially higher than in the United States (Hirsch & McPherson, 2010; Clawson & Clawson, 1999).

However, institutional explanations can also be applied to the top of the earnings distribution. In 1965 the typical CEO earned twenty-four times what the average production worker made. By 2005, this ratio had ballooned to 262:1 (Mishel et al, 2007). It seems unlikely that the relative productivity of CEOs (vis-à-vis production workers) improved by a factor of nearly 11 over this period (and much less likely that CEO's increased mastery of new forms of technology generated these stellar returns). Perhaps a more plausible explanation for such rapidly rising levels of executive compensation is a shift in the institutional norms governing appropriate pay (Krugman, 2002). According to this account, widespread social disapproval of large disparities in the earnings of management and workers placed a restraint on the extent to which CEO paychecks could dwarf those of average Americans. In any case, it is clear that the United States experiences far greater earnings inequality today than under the labor-capital accord.

However, the notion that increases in inequality are responsible for deteriorating self-assessments of satisfaction with pay are complicated somewhat when trends in earnings are disaggregated by sex. As I note earlier in my dissertation, women's earnings experienced strong growth over the period 1970-2006. Why then, did women's sentiments regarding pay deteriorate right alongside men's (see Table 4.3, pp. 87)? While the concept of relative deprivation can fruitfully be applied to this seemingly incongruous finding as well, there may be another mechanism responsible for deterioration in sentiments of pay among women.

Clark et al (2008) suggest that trends in subjective perceptions of well-being may not always track changes in objective standards of living because expectations about what constitutes the "good life" rise right alongside improving economic fortunes. In other words, when economic conditions improve across the board, people tend to desire higher standards of living for themselves. Hence, the positive effect of rising incomes on happiness may be offset by the increased expectations

regarding what constitutes an acceptable standard of living. There is some evidence that people are actually quite good at adapting to new circumstances and adjusting their expectations accordingly. For example, Brickman et al (1978) compared self-assessments of well-being among a group of lottery winners to a group of non-winners. They found that the lottery winners did not express significantly more positive outlooks relative to their non-winning peers. While Brickman et al's study is somewhat suspect due to its (necessarily) small sample size (n = 22), other studies have corroborated their general findings. Di Tella et al (2007) show that four years after receiving a raise, the effects of that raise on workers' self-assessments of well-being are only about 42% of the effects measured one year after receiving the raise. In other words, workers' feel better about their situation after receiving a raise, but those positive effects wear off over time. Burchardt (2005) also shows evidence of habituation to positive events among a sample of British workers. In her study, workers who had received a raise did not report greater satisfaction than workers who did not. Interestingly, however, Burchardt finds that habituation may be asymmetric. Indeed, people who experienced a decline in income were less likely than others to report they were happy – and this negative effect persisted over time. The implication is that when good things happen, we may be initially elated, yet we also tend to "come back down to earth" rather quickly. Conversely, when bad things happen, we continue to voice our displeasures well into the future. In any case, the concept of adaptation, or habituation, may in part explain why women's self-assessments of satisfaction with pay have remained constant despite improvements in average earnings – women's expectations may have risen right alongside objective labor market conditions.

Finally, greater dissatisfaction with pay may also reflect a decline in social mobility relative to the accord-era. Increases in inequality may generate less dissatisfaction if workers perceive there is a reasonable opportunity to improve their future economic position. Unfortunately, some studies have concluded that economic mobility (the extent to which a person can transition between different

locations in the earnings distribution) has, in fact, declined – particularly among men (Bernhardt et al, 2001; Buchinsky & Hunt, 1999). If economic mobility has decreased, then increased inequality would appear not to be offset by increased opportunity for advancement. Increased inequality, coupled with declining opportunities for advancement are certainly fertile conditions for generating the declining levels of satisfaction with pay I uncover in Chapter 4.

Diminished Satisfaction with Workplace Autonomy

Third, I find worker perceptions of autonomy have declined since the 1970s. My results are consistent with some prior findings, however, there is considerable controversy in the literature. For instance, my results are at odds with Kalleberg's (2011) findings that American workers in 2002 (and 2006) expressed greater satisfaction with the extent to which they were allowed to exercise individual discretion than did workers in 1977. On the other hand, my findings are in line with Green's (2006) research documenting a decline in subjective appraisals of workplace discretion in all but a handful of European countries. Below, I will discuss some mechanisms that could, at least plausibly, generate declines in workplace discretion in the United States.

A number of scholars making the claim that contemporary work provides little room for individual autonomy couch their arguments in the language of technological change and de-skilling. These investigators claim the contemporary workplace has been subjected to a new wave of Taylorism whereby work is partitioned into its constituent parts (Dohse et al, 2003; Taplin, 1995; Graham, 1993). By re-engineering work so that each worker is responsible for only a minute portion of the overall process, and by working to ensure that each task is as simple as possible, employers may be able to exert tighter control over the labor process while simultaneously reducing wage premiums paid to skilled labor. In other words, the de-skilling of labor not only depresses wages, but also has an adverse effect on the level of discretion workers enjoy.

To illustrate, Reskin & Roos (1990) provide several examples of occupations that have recently undergone de-skilling. For instance, bakers who were once responsible for producing baked goods from scratch, are now much more likely to "bake off" previously frozen product for sale in a retail establishment (Steiger & Reskin, 1990). Because fewer skills are required for "baking off" than for baking from scratch, employers were able to purchase the services of bakers at a lower wage. Further, the working conditions of bakers deteriorated precipitously as semi-autonomous craftsmen were replaced by closely monitored grocery store employees. Not coincidentally, the de-skilling of the baking profession was accompanied by a feminization of the occupation.

Neo-Taylorist arguments are useful in describing trends in some occupations, yet the de-skilling thesis is, nevertheless, potentially undermined by findings that average skill-levels have increased relative to the accord-era (Felstead et al, 2002; Handel, 2000; Ashton et al, 1999; Gallie et al, 1998; Gallie, 1996; Howell & Wolfe, 1991). Further, a positive association between job skills and autonomy has long been maintained in the job quality literature (Freidman, 1977; Blauner, 1964). However, the relationship between job skills and autonomy should by no means be interpreted as deterministic. Indeed, there is some evidence that the relationship between skills and autonomy is much looser than is often assumed. For example, Green (2006, pp. 108-109) finds a *negative* relationship between the change in the use of advanced technology, and the change in task discretion among a group of occupationally similar workers. In other words, workers who were subjected to greater technological change over the period 1992-2001, on average, recorded lower measures on a scale of task discretion. Because the relationship between skills and autonomy may not be particularly strong, a deterioration in workers' perceptions of autonomy is not necessarily inconsistent with an average upskilling of the workforce. More generally, the observation that autonomy and skill are positively related in the cross-section does not imply that increases in skills over time will necessarily generate increases in autonomy as well. Furthermore, Green (2006, pp. 94)

speculates that the relationship between autonomy and job skills may be weakest when workers and employers are distrustful of one another. The transition from a model of employment relations based on the labor-capital accord with a system of flexible production is, at least arguably, rife with examples of workers whose trust in their employers has been severely breached. Uchitelle (2007) catalogs a number of instances in which employers have reneged on implicit, or sometimes explicit, promises made to workers. Gallie et al (2004) claim both trust and workplace autonomy have suffered due to increases in the level of scrutiny and accountability – particularly in the public sector. Finally, Grimshaw et al (2002) attribute declining perceptions of autonomy to an increase in the use of subcontracting. Because the relationship between the employer and the contractor is often short-term, work contracts are more likely to be explicitly laid out, limiting the degree to which the contractor can exercise autonomy.

Diminished Satisfaction with Intrinsic Rewards

A similar dynamic applies to my fourth major finding – that worker perceptions of intrinsic rewards have deteriorated over time. However, my findings for intrinsic rewards are arguably more contradictory to the conventional wisdom than my conclusions regarding autonomy. A long established literature has documented a positive association between skills and intrinsic rewards (Lawler, 1994; Kalleberg, 1977; Hackman & Oldham, 1976)[1]. Further, although the literature directly assessing trends in subjective perceptions of intrinsic rewards is scant, my findings contradict some prior scholarship on the topic. For example, Kalleberg (2011) finds workers were more likely to positively assess the extent to which they find work "meaningful" in 2002 than in 1977. Further,

[1] Yet, as with autonomy, a positive relationship between intrinsic rewards and skills in the cross-section does not imply that an increase in skills over time must necessarily generate increases in intrinsic rewards as well.

workers in 2002 were found to express greater satisfaction with skills-development when compared to workers in 1977.

What could account for a deterioration in worker sentiments of intrinsic rewards over a period in which skills have unambiguously increased? I suspect subjective assessments of intrinsic rewards may have declined, in spite of a general upskilling of the workforce, because of the trends towards work intensification noted in Chapter 6. While it seems unlikely that more skilled workers would express greater dissatisfaction with intrinsic rewards, it is possible the salubrious effects of upskilling on perceptions of intrinsic rewards may have been overwhelmed by the deleterious effects of work intensification. Indeed, in many occupations, there is evidence that technology is being put to use in order to intensify work. For example, Delbridge et al's 1992 study of a Japanese auto plant revealed that management implemented new technologies explicitly to limit the amount of "down time" experienced by workers. By ensuring everyone had just enough work to do (but not so much as to generate bottlenecks), management was attempting to extract productivity from workers for each second they were on the clock. Green (2006) concludes that while the implementation of work-intensifying technology tends to "optimi[ze] the flow of work…, cut inventories of works-in-progress, and reduc[es] workers' ability to take breaks" it also has the effect of "eradicating 'leisure in work'" (pp. 70).

This is potentially problematic, in terms of the intrinsic rewards, because many workers are likely to positively value "leisure in work". Workers may find periods of down time enrich the overall experience of work – perhaps making work more interesting. However, there is some evidence suggesting contemporary employers have become more adept at using technology to monitor the activities of workers. Indeed, technology has been used by employers to make workers more visible, impose greater accountability, and to combat shirking (Miozzo & Ramirez, 2003; Boggis, 2001;

Delbridge et al, 1992; Sewell & Wilkinson, 1992). For example, O'Connell (2008) reports Ann Taylor Loft (a clothing retailer) introduced new technology to monitor worker performance on a sales floor recently redesigned along Taylorist principles. Workers at Ann Taylor Loft stores were not only given time standards for how long individual tasks should take ("three seconds to greet a shopper… 32 seconds to fold a sweater… five minutes to clinch a sale") but were also electronically monitored in terms of their compliance with the new rules. Workers whose performance metrics were not up to standards were harmed on a number of dimensions. Perhaps most importantly, underachieving (by the standards of the employer) workers were more likely to be scheduled fewer hours, and given less desirable shifts. Further, employer surveillance was explicitly used to reduce worker idle time. When management noticed opening shift workers "got a coffee and sat down and caught up with what was on TV the night before" a decision was made to cut the amount of time allocated to opening tasks by one hour. While the reforms may have benefited management in terms of increased productivity, O'Connell (2008) reports the atmosphere of many stores soured considerably post-intensification. A number of workers, many citing breaches of trust, claimed Ann Taylor Loft had become a more unpleasant place to work.

Indeed, a literature has emerged documenting a negative association between employer surveillance and job satisfaction among workers. For example, Holland et al (2015) report that workers who are subjected to electronic forms of employer surveillance were less likely to report trust in management. While workers, particularly blue-collar workers, have long been exposed to employer surveillance it is possible that recent technological developments have made it easier (and cheaper) for employers to constantly monitor worker activities. As a result, certain occupations whose workers have not traditionally been exposed to constant employer scrutiny (such as white-collar workers) may be increasingly exposed to such surveillance. For example, Fraser (2001) reports on the widespread adoption of keystroke logging programs, such as the WinWhatWhere Corp.

"Investigator". Keystroke loggers allow employers to record each key stroke and mouse click in order to monitor worker productivity. Further, keystroke loggers can be programmed to alert employers to a worker's use of certain keywords. For instance, some employers might wish to be alerted in the event a worker enters the words "union" or "strike" into a workplace computer. The use of keystroke loggers allows employers to monitor workers in such a fashion. While the degree of surveillance contemporary workers are exposed to is likely greater than that experienced by their historical peers, there is, unfortunately, no good measurements of the extent to which employer surveillance permeates the workplace.

Hence, given the limitations of my data, a direct link between technological innovation and a decline in "interesting" work is impossible to establish. However, it is not difficult to imagine how micromanaged workers, under the constant specter of surveillance, would express greater dissatisfaction with intrinsic rewards. I suspect that wherever work is intensified, leisure in work is systematically targeted for elimination, and workers are judged in accordance with their compliance to a tightly circumscribed set of activities, the creative and social aspects of work are likely to suffer. For many, these outlets for personal expression and camaraderie likely represent those facets of a job workers most find most interesting.

Diminished Satisfaction with Workloads

Fifth, I find that contemporary workers express less satisfaction with work-loads when compared to their 1970s counterparts. This finding is consistent with the pessimistic narrative of workplace transformation, as well as a literature finding average work hours have, in fact, increased over time. For example, Schor (1991) finds that the average work-year increased by about 9 hours per year over the period 1970 – 1990. At the time of her publication, the average worker was putting in an estimated 164 additional hours of paid labor when compared to the typical worker in 1970 – a

difference equivalent to an additional month of work. The increased number of work hours has likely contributed to the intensification of work-family conflicts. For example, roughly 70% of both men and women with children under 18 years of age claim to experience a conflict in balancing work, personal life and family life. Moreover, about 45% of women, and 40% of men, with children present claim to not have enough time to get everything done at home due to interference from work (Jacobs and Gerson, 2004). While the intensification of work-family conflicts may be partially attributable to changing expectations regarding appropriate parenting techniques (see Hays, 1996 for a discussion of the emergence of "intensive" parenting) the average increase in working hours has likely played a role as well.

While the length of the work week has increased since 1970, Schor's focus on the average number of hours worked masks some interesting sources of variation. For example, Kalleberg (2007) finds that, in the late 1990s, roughly six out of ten Americans wanted to reduce the number of hours spent working. Among men, the average difference between actual hours worked (47.3/week) and hours desired (37.5/week) was 9.8 hours. Among women, the difference between actual and ideal hours worked was 9.3 hours (41.4 vs. 32.1). Yet while a majority of workers in Kalleberg's study sought a reduction in working hours, a sizable minority (about 3 in 10) expressed a desire to work more.

Indeed, some evidence suggests that, in addition to an increase in the average number of hours worked, there has been a polarization of working hours – some Americans feel they work too much, whereas others are unable to secure enough work. To illustrate, Jacobs and Gerson (2004) find that in 1970, 4.5% of men and 15.5% of women worked fewer than 30 hours per week. By 2000, these percentages had increased to 8.6% and 19.6% respectively. Moreover, in 1970, 21% of men, and 5.2% of women worked more than 50 hours per week. By 2000, these percentages had increased to 26.5% and 11.3%. Further, the gap between those working long hours and those who cannot secure

enough work appears to cleave along educational and occupational lines. Indeed, Cappelli et al (1997) claim the workforce is "increasingly divided between demanding but potentially enriching jobs held by educated workers – especially at the very top – and short-time, low-paid, low-skill, and often contingent work held by less educated workers" (pp 194). Hence it is likely that the mechanisms driving decreased satisfaction with work-loads are different for highly educated workers in professional and managerial occupations, than for less educated workers employed in other occupational fields. Among the less educated, declining satisfaction with workloads may actually reflect a dearth of opportunities to work, as well as inconsistent hours when work is available. Such an interpretation is consistent with prior research documenting an expansion of contingent forms of employment (Connelly & Gallagher, 2004; Kalleberg, 2000; Smith, 1997). However, among highly educated and highly skilled workers, dissatisfaction with work-loads probably reflects increasing amounts of time spent at work. Further, it is possible that technology – particularly communications technology – has exacerbated this sense of overwork among professional and managerial classes of workers. While technologies such as e-mail and internet phone service, have been hailed in some quarters as potential solutions for alleviating work-family conflicts, these technologies also have the potential to tether employees to work – even in periods where they are nominally "off the clock" (Wright et al, 2014; Boswell & Olson-Buchanan, 2007). As many a worker who regularly checks e-mail at 11:00 PM can attest, communication technologies are not always labor saving devices.

Diminished Satisfaction with the Pace at Which Work is Performed

Sixth, I find that worker satisfaction with the pace of work has declined since the 1970s. These results provide support for the pessimistic narrative of workplace transformation – workers in the age of flexible production appear to feel more harried than their accord-era counterparts.

My results are consistent with previous findings. For example, as I discuss in Chapter 1, Green (2006) documents an increase in European work intensification. This intensification appears to occur on a wide array of dimensions – including subjective perceptions of required effort, work tension, and work speed. There is some evidence that even attempts to combat trends towards European work intensification may have been counterproductive. For example, in 2000, France formally adopted a thirty-five hour workweek (the Aubrey Law) in an effort to reduce unemployment and workplace stress. While the effects of the Aubrey Law on unemployment are unclear, Askenazy (2004) finds many workers are now asked to complete the same tasks as before – just in less time. In the United States, Kalleberg (2011) finds workers in 2002 (and 2006) are more likely to claim they are overworked than workers in 1977. Similarly, workers in the 2000s are shown to hold more negative opinions regarding the pace at which they must work, and the amount of effort they must put forth, when compared to workers in 1977.

Much of the discussion regarding work intensification revolves around the impact of technology on the labor process. Technology certainly has the potential to ease worker burdens. For example, writing a paper using a laptop computer with word processing software is, no doubt, easier than writing using a typewriter. However, in other contexts, technology has been shown to increase worker burdens by intensifying the pace at which work is performed. The call center is perhaps the best example of the deployment of technology to intensify the work process. In the contemporary call center, management uses technology to deliver work to employees on a nearly continuous basis. Once business has been completed with one client, the next customer's call is instantly routed to the waiting worker. By eliminating "down time" the employer economizes on per unit labor costs – however, the worker is simultaneously deprived of opportunities to relax or recuperate (Green, 2006). Furthermore, technology enables management to monitor worker performance with greater precision. In the call center, workers' interactions with clients are heavily monitored, and those who

fail to keep pace with pre-assigned metrics are subject to discipline and dismissal. Indeed, the extent to which technology has enabled both the intensification of work, and the surveillance of workers, has led at least one scholar to apply the label "twentieth century sweatshop" to the modern-day call center (Wazir, 1999).

In a similar vein, alternative (or contingent) forms of work can be used by management as a tool to both threaten, and encourage, workers to provide employers with maximal effort. Indeed, some firms have adopted a core-periphery model of employment relations. For example, Romano (2009) reports that around 79,300 (45%) of the roughly 175,000 workers employed, in some capacity, by Microsoft are classified as vendors, contractors, temps, or some other designation distinct from regular employee. Core workers tend to be advantaged in terms of pay, security and benefits relative to their contingent counterparts. However, the presence of a contingent periphery can, in some cases, represent an implicit threat to workers in the core. The knowledge there exist any number of peripheral workers eagerly awaiting a chance to occupy one's position in the core may provide some workers with ample incentive to work intensely.

The diffusion of pay-for-performance compensation schemes may also undergird observed trends in work intensification. An employer who pays workers in proportion to their performance is better able to align the interests of the worker with those of his own. Hence a worker who knows her paycheck is contingent on a set of employer-specified metrics has greater incentive to provide maximal effort while at work than a worker whose pay is independent of performance assessment. For example, Green (2006) finds 44% of employers having implemented pay-for-performance had also intensified work over the period 1993-1998. While Green's study focuses on employers, rather than workers, it is nevertheless suggestive of a link between pay-for-performance and work intensification. Further, in the United States, Lazear (2000) finds that the implementation of pay-for-

performance is associated with increases in employee productivity – presumably via incentivizing maximal effort.

Finally, there is some indication that the presence of teams within a worksite is sufficient to generate work intensification. Barker (1999) coined the term "the tyranny of teamwork" to describe the pressures team-based workers place upon their peers. Indeed, many workers likely feel that mutual dependence, and the pressure to not let down teammates, is sufficient incentive to work intensively.

Increased Satisfaction with Promotion Opportunities

In contrast to my findings for the other dimensions of worker satisfaction, I find that workers subjective perceptions of promotion opportunities have improved since the 1970s. While this is a welcome finding, it is somewhat difficult to reconcile with the literature on flattened organizational hierarchies. At first glance, the trend towards less within-organization hierarchy (described in Chapter 1) might be expected to generate greater dissatisfaction with promotion opportunities. As internal labor markets deteriorate, workers may perceive their promotion chances to be diminished. Instead, I find the opposite – contemporary workers appear to be more optimistic regarding their promotion chances relative to workers in the 1970s. One possible explanation for this seemingly incongruous finding is that an increased emphasis on bottom-line profitability has spurred employers to be increasingly attuned to changes in market demand. As a consequence, a firm's core competencies may rapidly change in accordance with the winds of consumer demand. What was once a lucrative division within an organization may quickly become obsolete as the firm attempts to adjust to newly emerging market forces. As a consequence, jobs may increasingly exist in a state of constant flux. Within an organization, jobs that were once in high demand may quickly fall out of favor, and a new job (with different skill demands) may rapidly emerge to take the old job's place. Indeed, much has been written about the needs of workers to constantly re-tool and revamp their

skills sets (Trilling & Fadel, 2009; Handel, 2003). Furthermore, some prior work has concluded that contemporary employees' career trajectories involve much more across-employer movement than in the past (Cappelli & Neumark, 2004; Bernhardt et al, 1999). Although speculative, it is plausible that contemporary workers interpret this relatively rapid movement across jobs as a series of incremental promotions. Indeed, in some occupations it is widely believed that one is doing something wrong if they fail to change employers every couple of years or so (Fallick, Fleischman, & Rebitzer, 2006; Arthur & Rousseau, 1996). Perhaps workers' interpretation of what it means to receive a promotion has changed along with employment relations.

On the other hand, it is possible that my results for the promotion opportunities variable reflect differences in survey wording across "eras", rather than a real movement in the direction of optimism. Recall that accord-era workers were asked to evaluate their chances for *promotion* whereas flexible production workers were asked about their chances for *advancement*. This difference potentially distorts my findings insofar as it is possible to advance in one's job without receiving a promotion.

Work in the Era of Flexible Production – A Pessimistic Portrait of Changing Employment Relations

With the exception of attitudes regarding promotion opportunities, my findings paint a bleak picture of changes in Americans' perceptions of well-being at work. I find that workers in the age of flexible production express less satisfaction with job security when compared to their 1970s counterparts. I also find that contemporary workers are less satisfied with their paychecks than were workers closer to the period of labor-capital accord. In short, worker satisfaction with economic rewards appears to have undergone a substantial deterioration. Further, sentiments have eroded at a time when earnings inequality has skyrocketed and – at least among men – wages have stagnated.

In addition, I find worker sentiments of autonomy, intrinsic rewards, work-loads and the pace of work have also deteriorated relative to the 1970s. Contemporary workers are less likely to positively assess the extent to which they are allowed to work independently and engage in work that is interesting. Workers in the era of flexible production are also more likely to express dissatisfaction with both the overall amount of work, and the pace at which the work must be performed, than were their accord-era counterparts. In sum, worker satisfaction with non-economic rewards appears to have undergone a substantial deterioration. This decline has occurred during a period in which employers have sought to aggressively intensify work, and subject workers to greater levels of technology-enabled scrutiny.

My findings stand in stark contrast to those who have looked at the evolution of the American economy and have wondered what the fuss was all about. They claim our national gross domestic product (GDP) continues to grow, and while rises in household incomes have been modest, most American families have found ways to cope (Domenech, 2014; Winship, 2013). Further, contemporary Americans have access to an astounding array of consumer products that, for many older generations of Americans, were simply unthinkable. The optimists have a point – if the economic environment has improved on a number of objective characteristics, then why are contemporary Americans so pessimistic?

For example, Gallup reported during the week of August 10th, 2014 that 56% of surveyed Americans claimed the economy was "getting worse". Further, the percentage of Gallup respondents claiming a worsening economy has hovered in the 50%-80% range since mid-2009. However, Gallup's latest report comes on the tails of a Bureau of Labor Statistics (BLS) release suggesting a steadily improving economy. Indeed, the BLS finds that the official unemployment rate has declined by a full 1.1%, and that the economy had added 2.57 million new jobs, since July, 2013. Further, the BLS

documents annual declines in the number of long-term unemployed (1.1 million), persons marginally attached to the labor force (236,000), and discouraged workers (247,000). By all reasonable objective accounts the economy is improving. Why then, more than five full years after the official end of the great recession, are Americans so pessimistic about the state of the economy? Perhaps we are, as Phil Gramm suggested in 2008, a "nation of whiners".

On the other hand, maybe the pessimism Americans are currently expressing has transpired in response to real threats to well-being. Perhaps, despite improvements in macro-economic indicators, the average American is still rightfully anxious about their economic situation. Indeed, there is some reason to believe the connection between economic growth and rising wages has become tenuous in recent years. To illustrate, Figure 7.1 displays two trends – productivity and earnings. Note that for the period 1947 to, roughly, 1972 compensation tracked productivity pretty closely – the nation as a whole was growing wealthier, and the average worker was better off for it. However, after 1972 productivity continued to rise – but hourly compensation failed to keep pace. The nation was still growing richer – but these riches no longer translated to growing paychecks. Figure 7.1 suggests

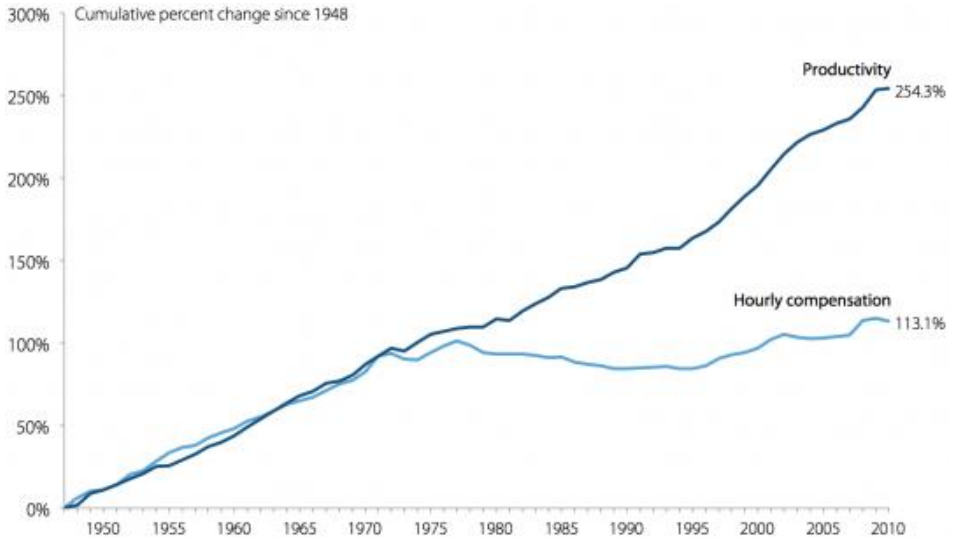

Figure 7.1 – Cumulative Percent Change in Productivity and Hourly Compensation since 1948.
Source: *EPI analysis of unpublished Total Economy Productivity data from Bureau of Labor Statistics Labor Productivity and Costs program and wage data from BLS Current Employment Statistics, and Bureau of Economic Analysis, National Income and Product Accounts. This chart originally appeared at go.epi.org/2013-productivity-wages. Economic Policy Institute. Mishel et al (2012)*

that, at some point, a growing economy stopped providing increases in well-being for the typical American worker. I suggest that a change in employment relations – the way in which the employer-worker relationship is broadly construed – contributed to this divergence.

The Ideological Roots of Transition – Who Should Bear the Risks of Economic Uncertainty?

The transition from the labor-capital accord to flexible production involved more than just a shift in strategy. At its core, I suspect changing employment relations were, at least partially, motivated by shifts in ideology. One of the major strains of thought underlying the labor-capital accord was the notion of shared fate (Hacker, 2006; Rubin, 1996). During the accord era, risk was commonly seen as a collective responsibility. Accord-era Americans recognized many forms of economic risk – unemployment, insufficient savings for retirement, the untimely death of a wage earner – were beyond the control of any one individual. Thus accord-era Americans sought to ameliorate the costs associated with unavoidable risk so that those unlucky enough to experience an economic shock were, at least partially, shielded from the consequences (Hacker, 2006). The passage of the Social Security Act of 1935 is an example of how Americans institutionalized norms of shared fate into a set of public policies intended to collectivize risk. To be sure, the United States was not alone in redistributing risk across society – a number of European nations took even more aggressive steps towards implementing far-reaching social welfare programs (Esping-Andersen, 1990). However, the United States was unique in the extent to which private industry took an active role in the provision of social insurance. For example, Eastman-Kodak was providing workers with profit-sharing, pensions, and health benefits by 1929 (Porter, 2014). During the 1950s – in accordance with the terms of the Treaty of Detroit – General Motors began providing employees with lifelong retirement

annuities, as well as annual cost of living wage increases. Employer-provided health insurance spread rapidly throughout the accord-era – partially enabled by the construction of large risk pools by Blue Cross, a private-sector entity (Hacker, 2006). Indeed, to this day, non-poor, non-elderly Americans most likely source of health insurance is an employer-sponsored policy.

Of course, employers' motives for providing social insurance were not always noble. For instance, Eastman-Kodak's generous provisions were an explicit attempt on the part of management to ward off the threat of unionization (Hacker, 2006). However, at the height of the accord-era, there is some evidence that many employers came to, at least partially, embrace the norms of shared fate that had taken root in the nation writ large. For example, in 1965 the National Association of Manufacturer's released a statement claiming "[p]rivate employee benefit plans with their inherent flexibility to adapt to the almost infinite requirements of employees and employers should be encouraged to grow and prosper within a favorable government policy and climate" (Gordon, 2004, pp. 76). Even Marion Folsom, the union adverse CEO of Eastman-Kodak, claimed (also in 1965) that "[w]e have made considerable progress in the last 50 years in protecting people against the major economic hazards of life… We've still got a few gaps, but on the whole, we're making pretty good progress" (Hacker, 2006, pp. 46). Regardless of motive, many large American employers likely felt some responsibility for protecting workers from the risks inherent in a dynamic capitalist economy[2].

Today, the "we're in this together" mentality that typified accord-era employment relations has been replaced by something altogether different. Whereas worker-employer relationships in the past were often long-term affairs, held together by norms of mutual attachment and reciprocity, contemporary

[2] See, in particular, Duncan Norton-Taylor's 1955 article "How Top Executives Live" to gain some perspective on how accord-era CEOs saw their relationship to workers and the general community.

employment relations are frequently short-term transactions between buyer and seller. What was once conceived of as a partnership that was "built to last" has been re-designed to reflect a "what have you done for me lately" mentality (Bernstein, 2006). Under the labor-capital accord, employers secured effort from workers by offering a degree of economic security. Today, new pressures – some of them related to the competitive environment in which contemporary employers must navigate, others stemming from the efforts of an increasingly powerful investor class – have contributed to the demise of this system. Contemporary workers are less likely to be granted any meaningful buffer from the winds of economic change. For workers in the late 70s and early 80s, this abrogation of the implicit contract outlined by the labor-capital accord no doubt came as a shock. Workers who were accustomed to the receipt of the protections afforded by accord-era employers were undoubtedly dismayed when these benefits were withdrawn. However, discontent remains high to this day. Why then do contemporary workers – many of whom have known nothing but an economy designed around the principles of flexible production – express greater dissatisfaction with their jobs than their accord-era counterparts?

The Transfer of Risk from Employers to Workers

In the era of flexible production many of the risks previously shouldered by employers have been transferred to workers. During the accord-era, risks associated with illness ware partially ameliorated by generous employer-provided health insurance. The risk of inflation cutting into the value of one's paycheck was mitigated by annual cost-of-living wage increases. The risks associated with providing for one's family in old age were reduced by the provision of lifelong, guaranteed-benefit, pension programs. Each of these means of managing worker risk have since come under withering assault. Indeed, I suspect increased exposure to economic risk may lie at the core of the rising levels of worker anxiety documented throughout my dissertation. Below, I provide a brief summary of prior

scholarship documenting the various ways in which workers are harmed by increased exposure to economic risk.

Earnings Volatility

Hacker (2006) finds that contemporary Americans are exposed to more earnings volatility than were past generations of workers. Earnings volatility refers to the up-and-down movements in household income over a period of years and is commonly used by financial analysts as a measure of risk. Over a ten year period, Hacker shows the average American household's earnings are over four times greater in their highest earning year than in their worst year. In addition, when families experience an earnings decline, it is likely to be much more severe than in the past. In the early 70s, families unfortunate enough to experience a decline tended to see their earnings drop by about 25%. In 1999, families experiencing an earnings decline typically lost about 40% of their prior income. Indeed, the probability of seeing one's family income drop by at least half was about two-and-a-half times greater for workers in the late 1990s than workers in the 1970s (Hacker, 2006).

Bankruptcy

Contemporary Americans are at greater risk of bankruptcy than were earlier generations of workers. In 1985, approximately 400,000 American households declared personal bankruptcy – in contrast to the slightly more than 2,000,000 personal bankruptcies filed in 2005. Further, this increase in the number of personal bankruptcies filed was not attributable to an increase in population. In 1985, .3% of American households experienced a bankruptcy. By 2005, the proportion of households having filed for bankruptcy had increased to 1.8% of the total (Zhu, 2011). Indeed, Warren (2004) claims that, in 2003, more Americans filed for bankruptcy than had a heart attack, were diagnosed with cancer, graduated from college, or experienced a divorce.

Insecure Health Care

Contemporary Americans are at greater risk of experiencing ruinous health care expenses. According to a Centers for Medicare and Medicaid Services (CMMS) report, health care expenditures constituted 13.3% of the national gross domestic product in 2012. In contrast, in 1960, health care expenditures only comprised 5.0% of aggregate national spending. More worrisome is that American families appear to be burdened with a larger share of these rising health care expenses. According to the CMMS report, annual per capita out-of-pocket heath expenditures have risen from $70.16 in 1960 to $1,048.42 in 2012 – after adjusting for inflation (Centers for Medicare and Medicaid Service, 2014). Further, although the reforms associated with the Affordable Care Act that went into effect on January 1st, 2014 appear to be making some headway[3], Americans still face a sizable risk of having to go without insurance at some point in their adult lives. According to a U.S. Treasury Department report, 48% of Americans went without health insurance at some point between the years 1997 and 2006. Of those experiencing a stint without health coverage, 36% lacked insurance for at least a year (U.S. Treasury, 2009).

Retirement at Risk

Contemporary Americans are at greater risk of an underfunded retirement. In 1980, approximately 40% of private sector workers were covered by an employer sponsored defined benefit retirement plan. These plans guaranteed eligible workers a source of retirement income for as long as they (and in many cases, their spouse) lived. By 2004, less than 20% of Americans were covered by such a

[3] According to the White House, as of April 2014, approximately 8 million Americans have signed up for health insurance via the on-line exchanges. An additional 3 million young adults gained coverage on a parental policy due to the age-eligibility extension. Another 3 million gained access via the Medicaid expansion. Gallup (2014) reports that the proportion of Americans uninsured as of April, 2014 has declined to 13.4% - down from 15.4% in 2012. For more information on the effects of the Affordable Health Care act on American's access to heath insurance see: http://www.whitehouse.gov/the-press-office/2014/04/17/fact-sheet-affordable-care-act-numbers and http://www.gallup.com/poll/168821/uninsured-rate-drops.aspx.

pension (Mishel, Bernstein & Shierholz, 2009). Present-day Americans generally plan for retirement by signing up for a 401(k) – or defined contribution – style program. The 401(k) is different from the accord-era pensions on a number of levels. For example, pensions forced workers to save for retirement by accepting a below-market wage. In this way, workers were setting aside some of their present earnings for future consumption. 401(k)s, on the other hand, require workers to actively set aside a portion of their paycheck in a tax-preferred account, and invest these funds in financial markets. Whereas the management of pensions under a defined benefit program is under the purview of professional investors, individuals with a 401(k) are required to manage their own portfolios. Further, unlike defined-benefit pensions, savings under a 401(k) style program are not mandatory – workers are free to contribute as much (up to a maximum), or as little, of their paycheck to their 401(k) as they wish. In addition, a 401(k) provides no guarantee that retirees will receive an adequate income for the duration of their lives. And there is mounting evidence that Americans simply aren't all that great at contributing to their 401(k). The demise of defined-benefit,

and proliferation of defined-contribution pension plans, has corresponded to an 11% decline in retirement wealth over the period 1983-1998 (Wolff, 2002). Indeed, the median 401(k) balance is only around $22,000 – not nearly enough to sustain pre-retirement levels of consumption for the vast majority of Americans (Li & Smith, 2008). Finally, 401(k)s are, with rare exceptions, completely uninsured. In contrast, traditional defined benefit pensions were generally insured against the risk of an employer failing to make good on pension promises. In the event an employer was no longer able (or willing) to make pension payments to retirees, the Pension Benefit Guaranty Corporation – a quasi-governmental agency formed after the passage of Employee Retirement Income Security Act (ERISA) in 1974 – stepped in to fill the void (Hacker, 2006). Individuals with 401(k)s have no such recourse – persons whose retirement savings are wiped out by a recession can do nothing but wait for the stock market to rebound.

While the increased risk confronting the typical American has derived from a variety of sources, changes in employment relations likely plays a pivotal "behind the scenes" role. Each of the risks listed above: earnings volatility, bankruptcy, skyrocketing out-of-pocket medical expenses and underfunded retirements, are informed by changes in the nature of the worker-employer relationship. For example, contemporary Americans may be more likely to experience large fluctuations in their earnings from year-to-year because the emergence of contingent work has made work less predictable. Bankruptcy may have increased because employment security has been eroded by employers' increased reliance on layoffs as a means of short-term profit generation. Workers, and their families, may be more likely to experience a financially crippling medical bill because contemporary employers are less likely to provide generous health insurance. American retirements may be underfunded because contemporary employers are less likely to bear the risks and responsibilities associated with retirement planning. The combination of all of these factors may have contributed to an increased hazard of experiencing poverty. Indeed, Sandoval et al (2009)

found that whereas Americans in their 40s had about a 13% chance of falling into poverty in the 1970s, their 1990s counterparts had about a 36% chance of dipping below the poverty line. While the above examples do not exhaust the possibilities whereby changes in employment relations could have generated an increased risk burden, they are nevertheless informative.

Yet, and perhaps most fundamentally, increase worker risk is a likely reflection of our values – and it would appear that employment relations in the age of flexible production embody an ethos distinctly dissimilar to the accord-era mentality of shared fate. To illustrate, in the late 1960s the largest employer in the United States was General Motors, a company that, at the time, paid solidly middle-class wages and provided generous benefits. Charlie Wilson, the president of GM from 1941-1953,

once earnestly remarked to a U.S. Senate committee "for years, I thought what was good for our country was good for General Motors, and vice versa". Today, the nation's largest employer is Wal-Mart. Wal-Mart pays its employees, on average, $21,000 a year, offers no guaranteed pension, and minimal health insurance (Blodget, 2010; Krugman, 2005). Despite former CEO H. Lee Scott's claim that "the truth is our wages are really competitive, and they're good", some estimate Wal-Mart's miserly compensation and benefits packages cost taxpayers roughly $6.2 billion in the form of public assistance offered to employees (O'Connor, 2014; Noah, 2005). Instead of following William E. Robinson's (president of Coca-Cola from 1955-1961) suggestion that "the neglect of the customers and his labor relations will seal [a CEOs] doom far faster than an avaricious, quick-dollar stockholder or director", contemporary CEO's appear much more likely to heed Milton Friedman's (1970) advice that "the social responsibility of a business is to increase its profits".

Contemporary American workers have much to be anxious about. The transformation of employment relations from a reciprocity based system rooted by an ethic of shared fate, to a

transactional system rooted in self-interest has likely contributed significantly to these anxieties. Given these changes it is not altogether unsurprising that contemporary workers appear to express poorer self-assessments of well-being when compared to their accord-era counterparts. Present-day Americans live in a world where employment is more unstable, work is intensified, and earnings are distributed more unequally. The expressions of frustration coming from contemporary workers are not evidence of "a nation of whiners". Instead they are real, and mounting, manifestations of a system of employment relations that shifts more and more of the burdens associated with a modern economy onto the shoulders of the workers themselves.

Looking to the Past to see the Future – The Shift to Flexible Production as seen through the Lens of Polanyi's Double Movement

In the opening chapter I introduced Karl Polanyi's concept of the "double movement". This idea centers around two competing clusters of values held dear by Western societies: economic liberalism and social protection. On the one hand, Americans place great value on the workings of the free market system. Many believe (either implicitly, or explicitly) that the free market is capable of producing goods and services in greater quantity, and quality, than any other known means of organizing economic activity. As such, the establishment of the free market economy is claimed to generate a higher standard of living in comparison to all alternatives. In short, the embrace of economic liberalism stems from a belief that free markets generate benefits that diffuse across all levels of society. This is not a new idea. The notion that the free market system is optimal in terms of the creation of wealth – and by extension – the general welfare of the population is at least as old as the writings of Adam Smith. Smith (1776) identified self-interest as the mechanism whereby free markets result in improvements in the well-being of society writ large. The following quote famously illustrates Smith's belief in role played by self-interested individuals in generating broad-based improvements in economic welfare:

> "As every individual, therefore, endeavors as much as he can to employ his capital in the support of domestic industry, and so to direct that industry that its produce may be of the greatest value; every individual necessarily labours to render the annual revenue of the society as great as he can. He generally, indeed, neither intends to promote the public interest, nor knows how much he is promoting it… he intends only his own gain, and he is in this, as in many other cases, led by an invisible hand to promote and end which was no part his intention… *By pursuing his own interest he frequently promotes that of the society more effectually than when he really intends to promote it*" (Smith, 1776, emphasis mine)

The conclusion arrived at via the above quote is that the wealth of nations is often best achieved by freely allowing individuals to self-interestedly pursue those actions enhancing their own personal

well-being. In other words, *greater societal well-being is achieved via the pursuit of individual profits*. Taken to its logical extreme, this line of reasoning implies that the best solution to any problem facing a society is to ensure the establishment of markets that are free from *any* sources of outside interference. In practice, this often means the establishment of *laissez-faire* principles of governance. Under such principles, any intrusion on market forces is deemed to be a detrimental interference with respect to the pursuit of self-interest – and by extension serves to diminish societal well-being.

Yet Polanyi claimed history has repeatedly shown that free markets are *not* adequate solutions for all types of problems encountered by individuals and societies. Indeed, there are numerous instances when blind allegiance to the free market has resulted in calamity (McCarty et al, 2013; Grusky et al, 2011; Ohanian, 2009; Keynes, 1936). Hence, Polanyi tells us that when the free market fails, or is at risk of failing, it is up to us to determine what constraints must be placed on the libertarian ideal. In the past, as in the present, most of these restrictions have been established in the name of protecting the economic security of the masses.

Polanyi's notion of the Double Movement refers to this interplay – our desire for economic liberalism, on the one hand, and economic security, on the other. While I suspect most Americans internalize both sets of values, the two sides of the Double Movement, nevertheless, often stand in contradiction. One cannot typically intervene in the workings of the free market without placing constraints on the self-interested pursuit of profits. Further, the extent to which a society favors one, or the other, side of the Double Movement greatly colors the way relations between workers and employers are commonly understood. For example, the drive system detailed in Chapter 1 occurred in an era of minimal non-market intervention. Because workers under the drive system lacked the protections of the security side of the Double Movement they were more likely to experience precarious, unstable, employment outcomes. In contrast, market intervention (most directly in the

form of strong unions) was one of the hallmarks of the labor-capital accord. Shielded from (at least some) of the negative effects of an unfettered labor market, workers in the accord-era were more likely to enjoy a secure and stable work environment.

The primary question I have sought to answer in my dissertation is: what has been the effect of the demise of the labor-capital accord and the subsequent emergence of flexible production on worker well-being? My results suggest that, from the standpoint of workers, the transition has been largely deleterious – contemporary workers express lower levels of satisfaction than did their 1970s counterparts. Could the lower reported self-assessments of job quality among contemporary workers reflect a shift away from the social protections afforded by the accord-era and a re-establishment of institutional structures more in line with the precepts of economic liberalism? While my data do not allow for a direct assessment of this question, it is plausible that the declines in subjective well-being at work I document here are a reflection of a "swing" in the Double Movement in a direction favorable to the libertarians. Here, Polanyi's arguments (first published in 1944) are strikingly modern. Consider the following two quotes:

> "In fact, at every moment of economic change throughout our history, this country has taken bold action to adapt to new circumstances, and to make sure everyone gets a fair shot. We set up worker protections, Social Security, Medicare, and Medicaid to protect ourselves from the harshest adversity. We gave our citizens schools and colleges, infrastructure and the internet – tools they needed to go as far as their effort will take them."
>
> President Barack Obama, State of the Union Address 2015, delivered 01/20/15

> "We need to reclaim our American system of limited government, low taxes, reasonable regulations and sound money, which has blessed us with unprecedented prosperity. And it has done more to help the poor than any other economic system ever designed"
>
> Congressman Paul Ryan, State of the Union Response 2011, delivered 01/25/11

While Congressman Ryan's statement was delivered four years prior to President Obama's, the juxtaposition of these two quotes nevertheless neatly illustrates the pertinence of the Double Movement to the contemporary United States. Obama heralds the interposition of "worker protections" as examples of "bold action to adapt to new circumstances". Ryan advocates for a system of "limited government" as the gateway to "unprecedented prosperity" and a means of poverty alleviation. Implicit in these two statements are claims consistent with the two sides of the Double Movement. While Obama does not directly suggest the worker protections enacted in the past place constraints on the free market, he does claim that such interventions promote the economic security American workers. Ryan's claim suggests the opposite – government interventions into the free market do harm to the nation, and in particular, the poor. Here Ryan is advocating for the principles of economic liberalism – if government would only leave the market alone, greater prosperity for all could be achieved.

I have no doubt Congressman Ryan is sincere in his beliefs. However, as Polanyi has taught us, the assertion that an unfettered market is the solution to all social ills is incorrect. What is not erroneous is Ryan's implicit claim is that intervention is likely to come at the expense of economic liberalism. Yet, Polanyi reminds us that this partial shackling of the free market is *precisely the point.*

> "In human terms [the free market] implied for the worker extreme instability of earnings, utter absence of professional standards, abject readiness to be shoved and pushed about indiscriminately, complete dependence on the whims of the market… The natural aim of all social protection was to destroy such an institution and make its existence impossible. Actually, the labor market was allowed to retain its main function only on condition that wages and conditions of work, standards and regulation should be such as would safeguard the human character of the alleged commodity, labor. *To argue that social legislation, factory laws, unemployment insurance, and, above all, trade unions have not interfered with the mobility of labor and the flexibility of wages, as is sometimes done, is to imply that those institutions have entirely failed in their purpose, which was exactly that of interfering with the laws of supply and demand in respect to human labor, and removing it from the orbit of the market*" (Polanyi, 1944 pp 176-177, emphasis mine)

If the institutional forces representing the security side of the Double Movement fail to place limits on the free market, then they have also failed in their goal of enhancing economic security. Hence the advancement of the security side of the Double Movement comes at a cost – yet its infringement on the free market is the price a people must pay to ensure the majority of citizens are not subjected to "extreme instability of earnings" or the "abject readiness to be shoved and pushed about indiscriminately". In Polanyi's time – as in our own – the champions of economic liberalism loudly bemoan the restrictions placed on the free market by the security side of the Double Movement. However, if what Polanyi teaches us is true, the complaints of the libertarians must somehow be made to fall on deaf ears. If we wish to (re)-establish economic security as a pillar of the American employment experience, it must come at the expense of those who disproportionately benefit from an unfettered market.

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EXECUTIVE SUMMARY

Statistical Analysis Subject Matter Expert

- **Statistical Communications:** Deep knowledge of statistics and statistical communications.
- **Advanced Data Modeling:** Excellence in data visualization and data mapping.
- **Data Model Development:** Development of data models such as: Multivariate Regression Models, Dichotomous/Polychotomous Regression Models, Structural Equation Models, Confirmatory and Exploratory Factor Analysis, Hierarchical Linear Models, and Survival Analysis (among others).
- **Consulting Work:** Currently working with Stat-Help to develop models for academic research and private firms.

Excellence in Teaching Social Statistics

- **Total students taught:** 1,325 as a Teaching Assistant and 650 as Instructor of Record.
- **Instructor of Record:** 18 classes. Teaching assistant for an additional 11.
- **Rate of Graduation:** Integral component of graduation rate of >80% over 6+ years (Dept. of Sociology awards approx. 350 baccalaureate degrees annually).
- **Student Evaluation:** Excellence across multi-dimensional student evaluations for 8+ years.

Mentoring

- **Student Acceleration:** Track record of assisting students move towards graduate school and scholarships (e.g. helped more than 20 students gain access graduate programs). Helped more than 30 students gain access to study abroad opportunities.
- **Positive Student Outcomes:** Primary advisor for students now employed with companies such as Tableau, Nordstrom, Amazon, Boeing, Banner Bank, Applied Precision, KPLU, and Verizon Wireless (among others).

CORE COMPETENCIES

- **Statistics**
- **Quantitative Research**
- **University Teaching**
- **Survey Methodology**
- **Economics**
- **Linear Regression**
- **Multivariate Statistics**
- **Logistic Regression**
- **Statistical Inference**
- **Survey Design**
- **Time Series Analysis**
- **Survival Analysis**
- **Data Visualization**
- **Econometrics**
- **Social Statistics**
- **Complex Statistical Analysis**
- **Hierarchical Linear Modeling**
- **Social Network Analysis**

CONSULTING & EDITING EXPERIENCE

Subject Matter Expert **June 2015**
Stat-Help

- Accepted as one of 16 statistical subject matter experts for an industry expert group providing reliable data analysis to clients re: study design, data preparation, statistical analysis, and working with statistical software.

Editor **June 2015**
British Journal of Sociology

- One of small team of elite reviewers for the prestigious, international journal which publishes sociological scholarship. Affiliated with The London School of Economics and Political Science.

EDUCATION

Ph.D. (Quantitative Sociology) **June 2015**
The University of Washington (*Seattle WA*)

- *Ph.D. Dissertation Title:* Trends in Self-Assessed Perceptions of Job Quality: 1970-2006.
- *Ph.D. Supervisory Committee:* Lowell L. Hargens (Chair), Jerry Herting, Jake Rosenfeld, Kim V.I. England
- *Major Area Exam*: Stratification, Race and Ethnicity (Spring 2011)
- *Minor Area Exam*: Social Statistics, Center for Statistics and the Social Sciences Ph.D. Track (Autumn, 2012).
- GPA: 3.82.
- Sociology Department ranked consistently in Top 20 among all universities (public and private) according to *U.S. News and World Report*.

M.A. (Quantitative Sociology) **June 2010**
The University of Washington (*Seattle WA*)

- *Thesis*: "Contingent Work and the Organizational Provision of On-The-Job Training" *Committee*: Lowell Hargens (Chair), Julie Brines.
- GPA: 3.79.

B.A. (Economics) **December 1999**
Southwestern University (*Georgetown, TX*)

- *Capstone Project*: "Racial Discrimination in the New York City Rent-Controlled Housing Market"
- *Adviser*: Dirk W. Early.
- GPA: 3.68

ACADEMIC POSITIONS

Lecturer. The University of Washington (*Tacoma, WA*) **Sept. 2013 – Present**

- Research and Teaching Interests.
- Quantitative Methods, Data Analysis, Econometrics, Employment Relations, Inequality, Stratification/Mobility, Organizations, Work and Occupations, Sex & Gender, Labor Markets, Social Statistics, Family.
- Lecturer in prestigious national program that attracts >6,000 students to take a sociology course annually.

TEACHING EXPERIENCE

Introduction to Sociology **Sept. 2013 – Present**
The University of Washington, Tacoma

- 8 sections taught.
- Approximately 400 students taught during timeframe.
- Students have gone on to work for entities such as Molina Healthcare, Coldwell Banker Bain, Teach for America, and Servpro Industries.

Introduction to Social Stratification **March 2011 – Present**
The University of Washington, Seattle

- 2 sections taught.
- Approximately 80 students taught during timeframe.
- Students have gone on to work for entities such as: Amazon, Applied Precision, Pineapple Hospitality, and Guidant Financial.

Women, Men, and Work **June 2010 – Present**
The University of Washington, Seattle
Teaching Assistantships

- 8 sections taught.
- Approximately 170 students taught during timeframe.
- Students have gone on to work for entities such as: Boeing, Verizon Wireless, Wing Luke Museum, and Seattle Public Schools.

Introduction to Social Stratification	01/11 – 04/11
Applied Social Statistics *(Graduate-Level Course)*	09/10 – 12/10
Foundations of Social Inquiry	01/10 – 06/10
Introduction to the Sociology of Sexuality	09/09 – 12/09
Introduction to Sociological Methods	09/08 – 06/09
Introduction to Deviance and Social Control	01/08 – 06/08
Introduction to Sociology	09/07 – 12/07

PAPERS & PRESENTATIONS

"Trends in Self-Assessed Perceptions of Job Quality: 1970-2006" **August 2013**
American Sociological Association Annual Meeting; Session: Good Jobs, Bad Jobs, No Jobs? The Changing Nature of Work in Today's Economy, New York, NY.

"Trends in Self-Assessed Perceptions of Job Quality: 1970-2006" **June 2013**
Center for Statistics and the Social Sciences Graduate Student Seminar; The University of Washington, Seattle, WA.

"Trends in Self-Assessed Perceptions of Job Quality: 1970-2006" **April 2013**
Graduate Student Council of Sociology Conference; The University of British Columbia, Vancouver, BC.

"Contingent Work and the Organizational Provision of On-the-Job **April 2011**

Training" Pacific Sociological Association Annual Meeting, Seattle, WA.

PROFESSIONAL AWARDS & GRANTS

Center for Statistics and the Social Sciences (CSSS) **May 2013**
Student Research and Presentation Grant *($1,000)* The University of Washington, Seattle WA

- Recipient of one of only two awards given out annually. CSSS is an inter-departmental entity. Competed against students in 26 separate departments and approx. 1,000 candidates.

Departmental Excellence in Teaching Award (Sociology) **May 2012**
The University of Washington, Seattle WA
University and Departmental Service

- One award given out annually. The sociology department consists of about 90 students.

Undergraduate Academic Adviser **June 2012 – June 2013**
The University of Washington, Seattle

- Two positions available. Roughly 90 potential candidates.

Graduate Student Representative **Sept. 2010 – Sept. 2012**
Center for Statistics and Social Sciences (CSSS) The University of Washington, Seattle

- Elected positon. One position is available. Appx. 1,000 potential candidates.

Senator **Sept. 2009 – Sept. 2010**
Graduate and Professional Student Senate (GPSS) The University of Washington, Seattle

SOFTWARE / DATA ANALYTICS / COMPUTING SKILLS

- R
- Stata
- SAS
- LISREL
- Python
- SQL

PROFESSIONAL MEMBERSHIPS

- **American Sociological Association** 2007 – Present
- **Advanced Business Analytics, Data Mining, & Predictive Modeling** 2015 – Present
- **Big Data and Analytics** 2015 – Present
- **Data Scientists** 2015 – Present
- **Innovation Enterprise** 2015 – Present

CONTINUING EDUCATION

- **Coursera:** The Data Scientist's Toolkit

COMMUNITY SERVICE & VOLUNTEER WORK

Outreach Counselor **June 2010 – Present**
Stand Up For Kids (*Seattle, WA*)

- Community outreach counselor. Reach out and provide material assistance to homeless and at risk youth.

AmeriCorps VISTA **June 2000 – June 2001**
Service Performed at the Capital Area Food Bank (CAFB) (*Austin, TX*)

- Liaison between the Food Bank and its member agencies (food pantries) in a 21 country area in Central Texas.