

Trends in the Effect of Economic Insecurity
on the Allocation of Household Expenditures in the U.S.,
1980-2005

by

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ABSTRACT

The transition to late-capitalism in the U.S. has generated extensive societal change. This paper examines the intersection of three developments: the transition to a consumer-oriented economic and societal model, the increase of economic insecurity experienced by individuals and households, and heightened emphasis on a short-term orientation in individual decision-making. A review of literature from the fields of Sociology, Economics and Psychology describes differing understandings of how individuals react to the heightened economic insecurity that households experience under late-capitalism. Within mainstream Economics, theoretical and empirical work suggests that individuals respond to insecurity by reducing spending and maximizing long-term financial well-being. However, recent work by social theorists such as Zygmunt Bauman and Richard Sennett suggest that the proliferation of risk that occurs under late-capitalism weakens individuals' ability to anticipate future risks, leaving them vulnerable to society's emphasis on short-term thinking.

Drawing on these two interpretations, I analyze differences in the effect of household employment insecurity on consumer behavior over time. Part one of the analysis uses six years (1980-2005) of General Social Survey data and compares levels of perceived job insecurity across demographic and occupational groups, while controlling for occupation-specific unemployment levels. Results show that perceived insecurity increased during this time period, regardless of individual characteristics. However, members of traditionally 'secure' groups had lower initial levels of perceived insecurity and sharper insecurity growth such that, by 2005, levels of job insecurity are not well

predicted by demographic or occupational characteristics.

The second part of the study analyzes data from BLS' Consumer Expenditure Survey. A two-level regression model for repeated cross-sectional data decomposes the effect of occupational characteristics, the unemployment rate and time on household spending in nine expenditure categories. Models include interaction effects that assess changes in the effect of occupational characteristics over time. Results indicate that occupational characteristics weakened as predictors of spending behavior during the time series, especially in 'long-term oriented' categories (e.g. housing, education). However, the presence of an earner in a high insecurity occupation is significantly associated with increased household spending on 'short-term oriented' good and services.

DEDICATION

*For my husband, Dan
and for my children, Henry and Jack.*

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CHAPTER ONE: INTRODUCTION

Consumer Society

The act of consuming is one of the most basic human activities and has existed as an organizing feature of societies throughout human history. Changes in consumption behavior over time, and differences between contemporaneous societies are explained primarily by the economic systems in which consumption occurs. Patterns of consumption are closely tied, both functionally and culturally, to the ways societies provide for themselves. For example, the transition from a hunter-gather to an agricultural economy fixed families in a single location, stabilizing food supplies and enabling the accumulation of more goods. A more accentuated transition occurred as agricultural societies industrialized, producing abundant goods that were available to broader segments of the population.

In the most recent example of large-scale economic transformation, developed societies experienced another significant shift, away from classic industrialism toward a system alternatively called post-industrialism or late-capitalism. Mass production in the early era of industrialization delivered an expanding universe of durable goods, ushering in an era of plenitude and a burgeoning advertising industry geared to persuade potential consumers of the promise of buying. Over the last four or five decades a variety of dynamics - including the outsourcing of Western industrial production, increasingly available consumer credit, and the rise of information technology - have had their own profound impact, altering the perceived and real costs of consumption and creating an additional mass market for *services* alongside more traditional goods. Thus a unique

feature of this late-modern society is that consuming itself has moved center-stage, becoming, arguably, society's central feature. If for classical Sociology the central social tensions centered on the consequences of modernization and industrial production, the discipline today is instead inclined understand Western societies as defined by consumer patterns both individual and institutional. This dissertation is part of that emerging body of scholarship.

Sociologist Pekka Rasanen identifies four attributes which differentiate contemporary *consumer* societies from earlier *consuming* societies: 1) a rise in the level of consumption, 2) the private market rather than collectivist entities as the main exchange mechanism of goods and services, 3) consumption as an appropriate daily activity, 4) the formation of meaningful consumer identities (Rasanen, 2003). While consumption of goods and services was an important aspect of modern societies, the post-modern consumer society is marked by the extension of consumerism to previously uncommodified areas of society, such as family labor, cultural and recreational practices, and interpersonal relationships. Tim Edwards provides a comprehensive definition that captures the key aspects of contemporary consumer society:

“The use of the term consumer society refers to a series of social, economic and sometimes political developments that characterize contemporary or late capitalist society. These include the increasing organization of society and societal institutions around consumption; the expansion in time and money spent on consumption activities, from leisure and sports to arts and shopping; the snowballing symbolic significance of goods in constructing individual identities and group practices; the increasing commodification and aestheticization of everyday life; and the rising significance of consumption in the reconstruction of social divisions.” (Edwards, 1997; 4)

Edwards suggests that a consumer mentality has extended beyond the bounds of the economic sphere into areas of social life once considered ‘sacred’ or at least removed

from the influence of the economy. Some examples of this are the pervasiveness of consumerism in childrearing, where marketed products and practices are increasingly present in the lives of children from infancy through the school age years (Schor, 2006), and the extension of commodification into individuals' dating, romantic and family lives (Hochschild, 2004; Bauman, 2003).

In some ways consumption patterns and consumer identities have replaced ascriptive characteristics as the means for organizing and stratifying social groups. For example, in her book The Overspent American, Juliet Schor argues that Americans have shifted their frame of reference for determining social affiliations and establishing lifestyle values. While residential neighborhoods traditionally formed homogenous class and ethnic enclaves in which individuals drew social comparisons, individuals today fashion life expectations around the people they see at work and on the television. The result is that lifestyle choices are derived from a more heterogeneous reference group, often increasing consumption expectations and blurring the distinctions between individuals from varied backgrounds (Schor, 1998; Featherstone, 1991).

There are other examples of consumerism's extension into previously uncommodified areas of social life, for instance in recreation and leisure activities. The growth of professional sports has, over the span of few decades, transformed hobbies once pursued individually or among close acquaintances into a major industry (Rasanen, 2003). Professionalized sports bring an associated increase in costs, salaries and merchandizing while emphasizing, for the bulk of society, primarily spectator rather than participatory activity.

Thus, while the modern, industrial era could be classified as a work-based society in which social life was organized around individuals' production activities, today's consumer society organizes individuals according to their roles as consumers (Bauman, 1998). This is evidenced by the transition from occupational to consumption activities in defining personal identities. During the industrial era, men's occupation and class attributes structured family identities and group affiliations. In contemporary consumer society work serves mainly as a means, and sometimes as a slave to, spending behavior. Purchase of goods and participation in consumer activities have become the primary designators of group membership.

The Roots of Consumer Society: Late Capitalism

To some, the advent of consumer society represents a new historic era among economically developed societies. While explanations of its emergence are varied and highlight cultural, economic and demographic factors, the features of what has been termed 'advanced,' or 'late,' capitalism is seen as the foundation of its development. Late capitalism, as the term suggests, is a stage of capitalism that develops in the wake of earlier forms at a point when economic growth and technological innovation alters the form of production and the scale of commerce. Late-capitalism is characterized most notably by: fluidity of financial capital accomplished through the growth of multinational corporations and the weakening of the nation-state's role in the economic sphere; globalization of both consumer and labor markets; the development of information-based and other technologies which facilitate the movement of monies, goods and people; and the transition away from a manufacturing-dominated to a service-dominated economy.

Much has been written about the causes and consequences of late capitalism as it exists in the United States and Western Europe (see Mandel, 1972; Jameson, 1991), and its connection to contemporary consumerism is multifaceted. The most obvious point of connection stems from the growth of excess capital which permits extensive accumulation of goods. However, today's capitalist system does not simply enable greater consumerism – it encourages it.

Sociological accounts of late capitalist consumerism have focused primarily on cultural developments such as the display of goods for social comparison and the development of consumer identities. This project focuses on somewhat different facets: (1) the growth of consumerism, (2) the individualization of risk, and (3) the relationship between risk and consumer behavior. As is elaborated in the next chapter, the deemphasizing of traditional social institutions like family, local community and the state has removed collective protection from life difficulties. Technological innovation and deinstitutionalization have increased risks over the last half century at precisely the historical moment that traditional mechanisms for protecting individuals and families have weakened. But this does not mean less is expected of family units – to the contrary, deinstitutionalization places ever more social and economic pressure on individuals and the nuclear family to be self-reliant. I argue that in addition to the cultural consequences of the post-modern era there are important structural features which encourage individuals and households to consume at increasing levels. I extend sociological understandings of the relationship between capitalism and consumer behavior, to look at how specific features of this new economic environment encourage families to consume.

Description of Dissertation Project

To date, sociological approaches to studying consumer society have focused almost exclusively on its cultural aspects. Much of this research uses qualitative methods to investigate how purchased goods create personal meaning and mediate personal relationships, and how social groups are organized, often hierarchically, according to consumption practices. Structural explanations of consumer behavior, traditionally the province of economists and less common in the sociological literature, have mostly approached variation in consumer choices as a product of individual differences in preferences. Overall, very little empirical sociological research has examined how the social features of consumer choice are shaped by structural aspects of society. Recently, however, social theorists have turned greater attention to these issues, particularly as they relate to the late-capitalist environment. Several prominent European social theorists (e.g. Beck, Bauman, Sennett) have written extensively on the development of consumerism under late capitalism.

This project uses the work of these social theorists as the foundation for an empirical investigation of how late capitalism might encourage individuals and families to consume in a manner inconsistent with the predictions made by economists. I begin by describing how late capitalism individualizes work, making employment experiences more tenuous and shifting the risks associated with work loss onto the shoulders of individuals and families. As is argued by Bauman and others, this process of individualization has increased the sources of risk to which people are exposed and made the consequences of 'failure' more severe. This assertion is corroborated by extensive empirical evidence which demonstrates that Americans today are more likely than in

previous decades to experience periods of unemployment or underemployment and less likely to have adequate protection from the risks of old-age and illness. These diffuse sources of risk create an environment of unpredictability in which planning is difficult and increasingly ineffective. I draw on evidence from the psychology literatures highlighting the numerous mental and emotional processes that must take place in order for objective and successful decision-making to take place. Several of these processes are challenged by the economic environment of late capitalism.

I continue by outlining economists have approached consumer behavior in general, and specifically how economic theory envisions individuals' consumer behavior in risk-laden contexts. Generally speaking, economics presumes that individuals act in an optimizing manner and will seek to smooth periods of low income (e.g., during a lay-off) by saving a portion of their money for future use. After highlighting mixed findings among empirical research, I point to weaknesses in the bases of economics' arguments owing to the difficulty of enacting what such arguments understand as standard 'rational planning'.

I argue that consumers faced with numerous sources of risk and insecurity become unclear about how to ensure financial stability; they struggle to adopt an 'optimizing approach' to consumption behavior, or even articulate what that strategy would be. Lacking clear evidence of the benefits of saving and frugality, consumers are susceptible to societal messages to consume. Stated another way, consumers will act to optimize their well-being only in situations in which a path to success is clearly available. In the absence of such a path, such as when economic uncertainty is at a maximum, individuals become susceptible to more short-term influences. These influences are

provided in abundance by advertising emphasizing immediate pleasure over long-term concerns; they are also reinforced by the late capitalist economy, in which the pace of life activities makes the short-term the only sensible point of reference.

For this dissertation, I adjudicate between the approaches put forth by economics and by recent social theory. I do this by examining the effects of economic insecurity (risk) on households' consumer behavior. Using several years of data from the Consumer Expenditure Survey (CEX) I assess whether households with higher levels of economic insecurity allocate a greater proportion of their budget toward short-term oriented goods and services rather than toward those that are long-term. Although several potential measures of economic insecurity are present in the CEX, including households' protection against health care and retirement related economic risk, time constraints limit this analysis to measures of the primary earner's *employment* security. This employment security is measured through four variables: a categorization of occupation type; whether the primary earner is employed in public or private sectors or is self-employed; the number of hours worked in a typical week; and the number of weeks worked in a year. These indicators of economic insecurity are used to predict the proportion of household income allocated to 'short-term' expenditures, as well as the proportion of household income spent in nine other expenditure categories.

Analysis of repeated cross-sectional data is used to determine whether economic insecurity has extended to a broader portion of the U.S. population over time, and whether the effect of insecurity on consumption behavior has strengthened. This project also includes a supplementary analysis, complementing the behavioral data found in the CEX with attitudinal measures. For this analysis, I use six years of General Social

Survey (GSS) data to measure changes in respondents' perceived job insecurity over the period 1981-2006. The purpose of this supplemental analysis is threefold: first, to gain insight into how perceived job insecurity, as measured in the GSS, has changed over time; second, to learn more about how levels of perceived employment insecurity vary according to a variety of demographic and attitudinal characteristics in the sample; and third, to support or disaffirm a connection between respondents' perceived job insecurity and selected attitudinal characteristics. This third purpose goes toward explaining the effect of insecurity on spending behavior – the central goal of this project. Perceived insecurity is only relevant to this analysis to the extent that it is sufficiently meaningful as to influence attitudes and behavior related to household financial decisions. As discussed, the data available through the GSS do not allow *direct* measurement of this relationship; however, my intention in Chapter Six is to demonstrate the correlation between perceived insecurity and related attitudinal characteristics as partial evidence of the broader influence of job insecurity on individuals' lives.

The primary hypotheses tested in this study address how increasing economic insecurity impacts households' spending behavior. Central to these hypotheses is the assumption that households are, in fact, experiencing greater insecurity. The supplemental analyses presented in Chapter Six demonstrate that levels of perceived job insecurity, net of unemployment, did increase over this time period. They also show that perceived insecurity is mediated by respondents' encounters with social forces, and is not simply the result of psychological conditions. These findings illustrate a context that supports the connection between economic insecurity and spending behavior that has been described by theorists.

This dissertation contributes to the consumption literature in two ways. First, it confronts economic perspectives on consumer behavior by providing a sociological explanation for individuals' failure to act optimally (i.e., creating difficult financial situations by over-consuming). Economics has been the dominant paradigm for understanding individual consumption choices, operating under the assumption that choices are affected solely by individual preferences rather than by social conditions. By integrating the theories of several prominent sociologists I offer a new interpretation for why consumption has come to play such a central role in society.

The second contribution of this project is its potential to provide empirical examination of timely, if abstract, social theories. Descriptions of the postmodern social milieu are often criticized as vague and 'out-of-touch'; I attempt to ground contemporary theories by operationalizing some of their central concepts. For all their shortcomings, these theories provide some of the most comprehensive available social scientific commentaries on the salience of consumerism in contemporary American society, particularly with respect to the influence of advanced capitalism. It is vital that some attempt be made to concretize these ideas using empirical methods.

In the next four chapters, I present in full the argument summarized above, describing the data and methods used to evaluate it. The final five chapters present the results of my analyses and provide conclusions. Chapter Two begins by discussing the influence of late capitalism on the world of work, and provides a history of how economic risk has been managed, both in the U.S. and in Europe over the passed four decades. This is followed by empirical evidence documenting the growth of economic

insecurity in the U.S., and some of the psychological implications of living under chronic insecurity.

Chapter Three describes economic theories of consumer behavior and individual responses to risk, as well as empirical research offering mixed support for those theories. The second section of Chapter Three contrasts economics' assertions with sociological interpretations of consumer behavior under conditions of risk, informed by social theory, empirical research on insecurity and the psychology literature.

Chapter Four outlines in greater detail the research approach of the dissertation and the hypotheses tested. Chapter Five describes the two data sources employed: the General Social Survey (GSS) and the Consumer Expenditure Survey (CEX). It provides detailed information on the recoding and calculation of analysis variables, and limitations to the sample; it also summarizes the descriptive and multivariate techniques used to test the hypotheses. Chapter Six provides the results of the analysis of General Social Survey data, highlighting over-time change in perceived insecurity according to a variety of demographic and attitudinal characteristics, noting the effect of the unemployment rate on respondents' perceived insecurity. Chapter Seven contains descriptive and bivariate analyses of Consumer Expenditure Survey data, depicting changes in spending behavior during the time period (1981-2005) analyzed. This chapter examines allocations to different expenditure categories, as well as the bivariate relationship between predictor and outcome measures that appear in the multivariate models. Chapter Eight reviews results from multivariate models of spending allocation using the Consumer Expenditure Survey. The chapter is presented in nine sections – one for each of the expenditure categories that are examined. Finally, Chapter Nine summarizes the findings of Chapters

Six through Eight, providing conclusions and recommendations for future research in the area of consumer studies.

CHAPTER TWO: THEORETICAL AND EMPIRICAL WORK ON ECONOMIC INSECURITY

This chapter discusses literature from sociology and other fields that characterizes the recent form and patterns of economic insecurity in the U.S. It summarizes theoretical work which a) points to both an increase and diversification of risk in contemporary life, and b) speculates on how the dissolution of traditional institutions limits available support for individuals during difficult times. In the middle section I present empirical findings detailing the sources of economic risk in contemporary life. Finally, this chapter presents findings from psychology and other fields, on individuals' responses to insecurity and their ability to adjust and respond to stress.

As stated in the introductory chapter, one of the central features of the late capitalist environment is a dramatic change in the way that society manages risk and insecurity. The late capitalist economy increasingly positions people in a world that is experienced as insecure. While insecurity in the contemporary United States is rightfully attributed to a variety of social, demographic and economic changes, this project focuses solely on the sources of insecurity that arise from economic factors - particularly those associated with paid work and the provision of benefits. Excluded from this analysis are a variety of other sources of insecurity that have resulted from family and community transition, globalization and technological change.

An Overview of Economic Insecurity

Insecurity arises from both the economic and social features of late modernity. The changing and, arguably, diminished role of the state is central to the growth of

insecurity, especially with respect to its managing of social security and well-being. As government gradually retreats from its role as a social provider, market ideals such as competitiveness and efficiency extend their influence over the various spheres of social life. Although state infrastructure remains, many of the roles typically associated with the welfare state are relinquished; indeed, the state evolves over time into an advocate for the extension of market logic to new areas of social life (Jacobs, 2004). As Zygmunt Bauman (2002) notes, the messages relayed by the state are increasingly those that *disavow* government responsibility and involvement, that encourage citizens to revel in economic choice and flexibility while simultaneously communicating that state protection and involvement are disempowering.

Having traded their traditional goals for those dictated by a 'market logic', public institutions are weakened, or at least experience a watering down of their missions. A clear example of this pattern is found in the United States public education system. Instruction and student assessment are increasingly driven by standards of efficiency and accountability, sacrificing depth of knowledge for quantifiable test scores. Failure to meet such standards carries a market-based penalty: the redirection of public funding into charter schools and school privatization schemes, as 'consumers vote with their feet'. As a result, schools and universities are viewed as small businesses, and the state's role as a source of stability and assurance in the face of market instabilities, is greatly diminished. Bauman goes as far as to say that, over time, society, like the market, becomes "a prime source of surprise and of a diffuse, frightening because unknowable, danger." (Bauman, 2002, p.194).

As important are these changes in public education, in no place is such change more evident than in the world of work, where limited opportunities for stable, ‘good’ jobs and socialized protection from risk threaten the economic security of individuals and families. Loss of protection from unions and from government regulations, as well as the increased flexibility required of contemporary workers, have made employment in virtually all sectors of the economy less secure (Starks, 2003). It is likely that these changes in employment conditions reduce individuals’ abilities to predict what the future will hold. Increasingly work life operates ‘in the moment,’ offering little chance to use the past to inform decisions about and expectations of the future (Bauman, 2002).

Beck’s Risk Society

In his influential book, *Risk Society: Toward a New Modernity*, German sociologist Ulrich Beck describes contemporary insecurity as the outcome of a new set of social risks. These risks are historically unique and result in new forms of global insecurity and heightened risk-awareness. Beck’s theory focuses almost exclusively on the foundations of risk-perception, rather than on the objective presence of risks. To Beck, a sense of risk exists once an individual’s feelings of trust and security are damaged. For example, in discussing the risk associated with a recent contamination of the beef supply in Europe, the most relevant outcome for Beck is the perception of risk that ensues (individuals’ future distrust and felt need to negotiate food safety), rather than any relatively small change in the likelihood of food poisoning.

Beck describes the distinct social process through which these novel perceptions of risk develop. The period of late modernity is characterized by “reflexive

modernization,” in which the strength of traditional social structures such as class, gender and family begin to fade. In this process individuals are, over time, dislodged from traditional social roles. However, rather than becoming embedded in new social identities, people are instead increasingly individualized, becoming themselves a basic unit of social reproduction as older institutions once were (2001: 277).

Another consequence of reflexive modernization is that traditional values and notions of progress are viewed as infeasible and supplanted by the pursuit of knowledge and technological expertise. In Beck's terms, “as the structural certainties previously provided by governing institutions evaporate, people are pressed into routinely making decisions about education, employment, relationships, identity and politics” (1992). Ironically, it is precisely these advances in knowledge (science) and technology that bring about the risks described by Beck. New forms of knowledge and technologies create new risks even as they are employed to resolve old dilemmas. For example, new technology allows for the harvesting of diverse energy sources but not without the possibility of catastrophic events such as global warming and nuclear contamination. A cycle develops in which new solutions perpetually present new, ever more terrifying risks. Over time, these risks outpace the control and protective capacity of weakened social institutions (Beck, 1992).

Beck explains that the nature of risks today is quite different from that of the past. Today, risks expand beyond previous constraints of space and time. One nation's actions have the potential, often realized, to impact people living at remote distances; or people yet unborn. Another unique characteristic of contemporary risks is that they are human-made. Historically most risks were naturally induced, or were not mainly the result of

conscious human decisions (e.g. disease resulting from poor sanitation). Today, humans intentionally pursue courses of action that generate dangers incomparable to those of the past.

Perhaps the most relevant contribution of Beck's theory to a discussion of economic insecurity is his account of the unique *distribution* of contemporary risks. As state authority recedes, individuals take up the burden of coping with risks. Greater individualization offers freedom from normative models of behavior, but it also brings with it a stronger logic of individual responsibility for outcomes (see also Bauman, 2002). This type of culture requires educating oneself about the nature of risks and their potential solutions. In the consumer realm, this involves individuals negotiating purchase decisions, according to which products promise the least risk. As a consequence, the distribution of risk is uneven within the population; the poor and less educated often bear higher risks and have less means of mitigating them.

The Development of the Welfare State in the U.S. and Europe

The growth and character of contemporary economic insecurity stands in contrast to the historical backdrop of risk and risk management in the modern era. Identifying an appropriate reference point from which to draw comparisons aids in assessing the novelty of individualized risk. I begin with a brief discussion of the historical changes responsible for the development of the welfare state in Europe and the U.S., followed by a review of risk management in the U.S. during the last century. While American state-provided social insurance is often believed to be a short-lived artifact of the post-

Depression era, in actuality the welfare state, and more generally the tradition of state provided risk-insurance, have a long established place in American society.

The erosion of economic security in the United States has taken place against a backdrop of more than a century of social insurance provision under the welfare state. Though the presence social provisioning and security, generally referred to as a welfare state, is often considered a result of liberal attempts to assuage undesirable outcomes of free market economics, Galbraith (1995) eschews the idea that the welfare state is the result of a particular political agenda. He argues instead that it is derived from specific historical and technological transformations initially associated with the early Industrial Revolution. These transformations have made the services provided under the welfare state a necessary component of modern social existence (Esping-Andersen, 1990). They were part and parcel of the modern capitalist economy.

While it is difficult to pinpoint the specific set of events that precipitated the need for a welfare-oriented society, it is clear that processes of industrialization and urbanization in Europe, as in the United States, played an integral role. As millions of workers moved from rural, agriculturally based economies into emerging urban centers, the agricultural lifestyle declined (Pierson, 1991) and was replaced by a new, landless working class that were to labor in burgeoning new factories and businesses. Not only was the type of work changed, but also its terms. In agricultural communities workers received some protection from unemployment thanks to the consistent availability of farm work, and to the safety net of modest land ownership, which could be liquidated to provide for retirement. Industrial labor provided no such benefits. Additionally, the formal sector work of the urban setting increased the dichotomization of responsibilities

between men and women; while in agricultural communities women provided household income through farm work or secondary ‘cottage’ industries, in the city such opportunities were limited, as cultural standards prescribed that women work solely within the home. Although most working class women nevertheless continued to perform labor outside the home, their ability to contribute financially to household income was more limited in the confines of the new, urban labor force. Thus, urbanization and the reliance on private employers increased the overall unemployment vulnerability of the new urban working class (Galbraith, 1995).

In some ways, however, urbanization served to *increase* social pressure to provide new work-based protections. By drastically increasing contact between previously rural, poor families and urbanized privileged classes in the cities, a sort of social reckoning was provoked. As urban centers became more crowded, the often-desperate conditions under which many families lived were made visible, highlighting the need for a systemic response to families’ vulnerability to work shortages and crises of old age and illness.

In addition to the pressures created by industrialization and urbanization, significant changes in population composition increased the need for state protections. Declining fertility during the 1800s and 1900s reduced average family size, taxing the ability of less populous younger generations to care for elders. The increased mobility associated with urbanization, and the higher costs of city living, challenged the abilities of local communities to support aging, disabled and often immobile populations. Compounding matters were two important forces: falling fertility rates and increasing life expectancy. Improvements in health care increased the time that adults survived after retirement; they also increased the cost of providing a socially acceptable standard of

care. As a result, the expenses associated with supporting a person during retirement increased rapidly over a short period of time.

Thus the historical processes associated with industrialism, urbanization and population change increased the vulnerability of families to work-based risks while simultaneously limiting the ability of small social units - namely the family - to mitigate those risks (Esping-Andersen, 1990; 1999). It is for these reasons Galbraith (1995) argues that the development of the welfare state cannot be viewed simply as a societal anomaly that is the result of the political inclinations of a particular group of individuals. Rather, it is the necessary eventuality of a set of historical transformations that have altered the ability of previous social institutions, such as the family and community, to protect against inevitable problems.

In discussing the foundations of the welfare state, Pierson (1991) points not only to the large socio-historical changes discussed above but also emphasizes the growing role of the nation-state in regulating social life, specifically democratic practices and citizenship, during the latter half of the 19th century. During this period the responsibilities of the state grew beyond maintaining order and conducting military engagements, to providing for the civil and political rights associated with citizenship (Pierson, 1991). Changes in the perceived role of the nation-state during this time resulted in ongoing discussion among political elites and social reformers in both North America and Europe around the turn of the 20th century (Orloff, 1988). They debated the replacement of the older deterrent-oriented system of poor laws with an expanded social insurance program; meanwhile labor organizations pressed for new protections for the growing segment of urban workers.

These debates around what was labeled the “social question”, gained their broadest interest when they addressed the concerns of working masses. Skocpol and Ikenberry (1983) argue that in resolving these debates, political and bureaucratic elites turned primarily to existing administrative organizations in constructing a new social insurance plan. In the American case, Landis (1999) provides a detailed historical account of how such administrative and legislative standards developed and how they were used to create a rationalization for the extension of benefits to the majority of American citizens.

A Short History of Risk Management Approaches in the U.S.

Landis’s (1999) account centers on the historical precedent in the United States for providing disaster relief and how this precedent created a discourse of state responsibility for ‘social disasters’. According to Landis, as early as 1790 the federal government provided funds for individual victims of local disasters such as fire, tornadoes or agricultural plagues. This relief was provided through private bills directed to individual aid applicants. Over the following century these direct subsidies were gradually replaced by general relief bills that appropriated large sums of money to benefit a group or class of people who had experienced a common negative event. This individual/class distinction would prove crucial for the foundation of future government aid. Landis (1999) highlights the importance of these early forms of government relief to later dialogue justifying New Deal provisions. As she explains, legislators were highly dependent on precedent in arguing for or against aid. The creation of social insurance

was made possible because its proponents built on the long history of providing disaster relief to citizens.

Additional precedent for the government as a mediator of risk is found in policies enacted during the 1800s to protect trade and investments (Moss, 2002). These policies included limited liability laws, banking regulation, bankruptcy laws and the enforcement of property rights, which encouraged entrepreneurship by protecting owners against business risks. Moss describes this pre-1900 period as the first of three phases in the development of government-provided insurance.

The second phase, spanning from 1900-1960, was dominated by worker-based insurance. By 1900, massive growth in the urban industrial workforce was a considerable source of workplace insecurity. While wages had increased, the repercussions of unemployment due to on-the-job injuries were quite severe for families who relied on a single income and were separated from the social supports provided in a rural environment (Moss, 2002). Between 1911-1920 a series of workers' compensation laws were passed requiring employers to provide accident insurance.

The devastating effects of the Great Depression introduced a new, varied group of economic difficulties. Within a short period of time it became apparent that the impact of the Depression surpassed the protective abilities of families' savings or private insurance. In fact, the breadth of the economic fallout meant that many private insurance agencies that served the middle and upper classes went bankrupt and were unable to meet the needs of policy holders (Moss, 2002).

In response, beginning in 1930, Congress debated the possibility of broader social insurance programs to protect workers. These debates centered on extending previous

federal protection of natural disaster victims to the ‘victims’ of economic hardship. Proponents sought to alter the image the poor and unemployed – from a portrait of moral inferiority toward the image of the more ‘deserving’ natural disaster victims (Landis, 1999). These debates led to the passing, in 1935, of the first Social Security Act, which provided insurance for the unemployed, the elderly and dependent children. This act was followed by the extension of Social Security benefits to surviving dependents (1939), increased coverage for disabled workers (1956) and the provision of medical benefits for retirees (1965) (Wallulis, 1998). It is worthwhile to note that although the program known today as ‘Social Security’ is now considered by many the strongest and most comprehensive social insurance program, it was originally met with significant resistance. The use of the ‘victim’ metaphor from natural disasters was initially difficult to extend to coverage in old age, as there was nothing unexpected about growing old, and as it was a condition that eventually applied to nearly everyone. The fact that Social Security was included in the New Deal programs was due almost exclusively to Franklin Roosevelt’s insistence (Landis, 1999).

In addition to the implementation of state provided insurance, laws passed in the 1940s mandated a bolstering of private, employer provided benefits such as health insurance and pension plans for medium and large employers. While in 1940 only 9% of Americans had employer provided health care, by 1950 more than half of the population enjoyed such coverage (Graetz and Mashaw, 1999). To help offset these benefits, employers received payroll and other tax exemptions.

In the 1960s and 70s, pressure grew to extend social insurance beyond provisions intended for workers to include individuals outside the workforce. The ensuing policies

extended protection for families with unemployed or underemployed parents, particularly for single parent households; these policies are commonly known as ‘welfare’. As Wallulis (1998) points out, work-based forms of social insurance were different from the newer, citizen-based forms of insurance, especially regarding notions of merit.

Dislodged to varying extents from individuals’ work identities, welfare programs were soon subject to means testing and became stigmatized by much of mainstream America.

By the late 1970s, the expansion of social programs for managing risk had come to an end. Indeed, in the following three decades, socialized insurance provided by government and employers experienced significant declines. American employers, facing increased economic competition, gradually withdrew benefit contracts they had offered during more profitable times. Business and government alike restructured benefits to offload the risk burden onto workers. Health care deductibles were introduced, benefits were cut and defined-benefit pension plans were increasingly replaced by defined-contribution 401K and IRA plans.

Still more recently, businesses have shifted to providing Health Savings Accounts (HSAs) to cut health care costs. These ‘individualized insurance’ plans create funds that workers pay into separately. Wal-Mart has come under considerable scrutiny for its attempts to transition its insured workers off traditional, shared-risk health insurance onto HSAs. While HSAs are still relatively unusual, one survey showed that more than half of businesses are considering using them (Hacker, 2006).

Hacker attributes the shift away from socialized risk protection and toward individual risk management, to rhetoric he calls the ‘Personal Responsibility Crusade’. The ostensible goal of the Personal Responsibility Crusade is to give individuals more

choice and control over their money by reducing interference from government and employers. In the case of HSAs, this means that although families are on their own when someone falls ill, they can select their doctors and choose whether to invest ‘health dollars’ in new drugs or procedures. Since the risks associated with illness are no longer pooled, however, Health Savings Accounts transfer not only choice and responsibility to the individual, but also vulnerability.

As Hacker explains, programs like HSAs and defined-contribution retirement plans are a of a piece with in the long term conservative policy agenda that seeks to remove government from its risk abatement role. Hacker cites Samuel Butler, an influential policy analyst at the Heritage Foundation, who engineered much of the personal responsibility policy agenda in the 1980s and early 1990s:

“In general, an element of all these (conservative policy approaches) is to create a parallel system based on more legitimate principles. In the process, you change people’s view of risk – you get people to think differently... You could just say “Accept risk, walk it off.” But what we say is “Let’s essentially privatize the risk management for health or retirement.” You give people other vehicles to manage the risk of living too long or being sick. You wean people gradually off of social insurance risk management into private risk management without making them fearful about it. You have got to do it in steps and have some government protection, at least in the beginning.” (Hacker, 2006; p. 56)

Although George W. Bush's attempts in his second term to reopen the debate over privatizing Social Security stalled, Hacker points out that popular support for plans like these has broadened in the last two decades. Debates in Reagan’s era that were entertained only by a radical periphery have today become a mainstream topic of debate.

Support for increased personal responsibility is to be expected, of course, given the individualized nature of contemporary society. Just as responsibility for locating and maintaining employment is placed more and more on the individual, so too is responsibility for managing a growing assortment of risks. The mantra of personal

responsibility is central to an ideology in which choice is paramount and restrictions imposed by government or businesses are viewed as oppressive (Bauman, 2001). As Graetz and Mashaw (1999) point out, however, a world in which all risk management occurs at the individual or household level demands a sacrifice of time and energy to perform the continual management necessary for such individualized insurance plans and contingency funds. And for the less educated and overworked portions of the population these tasks become impossible.

The decline of socialized benefits and the subsequent increase in individualized risk tells half of the story of how today's insecure economic environment originated. In the following section I discuss some of the recent changes in the world of work that have reduced the likelihood that individuals will experience long-term, reliable employment.

Individualized Employment

The concept of discontinuous, individualized employment is a recent development. Throughout the 1900s, the majority of workers counted on a single occupational channel in which they would work from youth until retirement. Career training occurred in youth and was expected to prepare workers for a lifelong career. Workers demonstrated loyalty by remaining with a company for decades, and, in exchange, employers offered full time work with benefits and salaries intended to support a household (Wallulis, 1998). This stable and reliable employment experience was available to workers from a wide variety of backgrounds, including those in blue-collar professions as well as the managerial and owner classes. An important caveat to this general pattern is that a significant minority of poor workers were unable to attain the

mainstream model of a 'good job' during much of this period and instead suffered unstable and piecemeal employment as they attempted to make ends meet. Nonetheless, the assumption of predictably stable employment was widely held.

These stable jobs were a centerpiece of the American economy through the 1960s, including the period when women joined the workforce in greater numbers. But economic stagnation in the 1970s undermined the growth on which increasingly generous benefits were based, and the greater pressure that resulted from globalized manufacturing competition encouraged employers to find new ways to cut costs and increase profit margins. To this end, companies moved toward 'trimming the fat' from their work force and introduced permanent layoffs alongside the exporting of jobs to foreign countries. Immersed in the culture of stable employment, workers were devastated by this disruption of their 'contract' with employers. Wallulis (1998) emphasizes the psychological importance of this breakdown, explaining that while the earlier model was reminiscent of a parent-child relationship in which employers took care of employees, the contemporary model functions as an adult-to-adult relationship in which work relationships are maintained only as long as they operated in both parties' interests. Workers and employers alike responded to these changes by shedding former commitments in favor of maximizing opportunities, though it stands to reason that employers could foresee these changes in a way individual workers could not.

Thus while work in the industrial period was characterized by lifelong, full-time employment, work in the post-industrial era has been characterized by temporary, part-time, 'flexible' employment. "Flexible capitalism has blocked the straight roadway of career, diverting employees suddenly from one kind of work to another" (Sennett, 1998,

p. 9). Workers entering the workforce today are more likely to have diverse work experiences over the life course, including periods of unemployment and underemployment (Beck, 1992).

These economic conditions have placed unprecedented responsibilities on the shoulders of individuals; securing one's own financial well-being, an ideal since the beginnings of America, now includes more pitfalls, and individuals must be sure-footed. In fact, maintaining employability through 'skills enhancement' has become a primary objective of the work experience, a forum for which being one of the intangible benefits that employers continue to provide workers (Sennett, 1998; Wallulis, 1998). Individuals must deftly navigate the market, continually advertising their skills and competing with others for scarce jobs.

When stable employment proves elusive, the individual is expected to accept responsibility, attributing the negative outcome to poor choices or a lack of flexibility. “Workers are asked to behave nimbly, to be open to change on short notice, to take risks continually, to become ever less dependent on regulations and formal procedures.” (Sennett, 1998, p.9). In spite of diminishing ability to predict which choices will dictate future success, responsibility for making ‘the right decisions’ nevertheless is seen as belonging solely to workers.

In this environment, the successful employee is usually the most flexible one. Work flexibility requires adapting to new working locations and hours, as well as openness to new values and perspectives. Older attitudes toward work, based in loyalty and obligation, seem outmoded: “In times when bets-hedging is the most profitable game in town, sporting a fixed taste and narrowing one’s choices could only be a symptom of

deprivation and retardation” (Rojek, 2004, p. 302). No longer should the worker blame the state or business during difficult economic times, but instead accept ultimate personal responsibility for their failure to meet employers' needs (Bauman, 2002). Newman (1999) refers to this phenomenon as meritocratic individualism: a cultural ideology that suggests that success or failure lies in the hands of the individual. Of course, this general sentiment is not new, but its current exaggeration and volume are indeed novel, as is evidenced in the work of Hacker (2006) and Newman (described below), in which many interviewees emphasized, first and foremost, their own personal and professional attributes when accounting for successes or failures.

The message of individual responsibility is implicitly and explicitly reinforced by employers. Cappelli (1997) refers to a rewriting of the psychological contract between employers and employees, carefully constructed to break previous bonds of employer obligation toward workers. Capelli provides two examples of these efforts. The financial firm J.P. Morgan provided employees with a pamphlet called ‘Guiding Principles of the Relationship between Morgan and You’, that encouraged employees to “take the initiative in your own professional development” (p. 203). And a vice president at Intel Corporation delivered a speech to the company’s employees in which he described their relationship with Intel as follows: “You own your employability. You are responsible” (Capelli, 1997, 203).

Well-publicized layoffs of long-term employees reinforce the need for workers continually to prove that they are worth keeping around, while other messages suggest that workers can no longer expect to hold a single career over their working lives, and instead should expect to have several different careers before retirement (Newman,

1999:244). The result of this work individualization is a shift in the employment experiences of people at virtually every point on the occupational ladder. Bourdieu (1998) stresses the ubiquity of job insecurity and individualization: “It has emerged clearly that job insecurity is now everywhere: in the private sector, but also in the public sector, which has greatly increased the number of temporary, part-time or casual positions; in industry, but also in the institutions of cultural production and diffusion – education, journalism, the media, etc.” (p. 82). Even in the public sector, which traditionally offered job security to compete with for private employers’ higher salaries, contingent labor has become more prevalent while restructuring undermines the stability of permanent workers (Conley, 2002). And so, a new individualization of work means that workers are no longer able to rely on their present job. In response, workers have become more mobile, while concentrating on skills attainment and labor market navigation. For many, this has proved a source of significant insecurity as jobs are lost and new ‘good jobs’ are harder to find. Together, employment insecurity and the individualization of risk management have generated a new kind of economic security, one that was not faced by workers and families a generation ago. This insecurity has various impacts on the well-being and success of Americans, several of which are discussed below. In this next section, I present empirical research and national statistics that document the rise of this new insecurity.

Empirical Evidence of Economic Insecurity

The empirical record shows little debate about the growth of economic insecurity in the United States. Evidence of this trend is found in national statistics, as well as in the

individual stories of communities and families. Here I separate research on economic insecurity into two categories: 1) research on job instability, including job loss and casualization, and 2) research on the weakening of social safety nets such as retirement savings plans and health insurance benefits.

Employment Insecurity: income volatility, job loss and contingent work

In the early 2000s, a review of popular news sources would have revealed encouraging details about economic conditions and the well-being of the American worker (Newman, 2005). Unemployment rates were low (hovering around 5%), incomes were rising and GDP maintained modest growth. All these measures are standard methods of assessing the health of the economy, and yet they provide only a partial picture, one that masks the vulnerability of workers. As political scientist Jacob Hacker explains in *The Great Risk Shift*, when the U.S. economy is examined from the perspective of the worker, we arrive at a vastly different assessment. Hacker concludes that the public perception of economic security in the U.S. is founded largely on rhetoric among politicians and the media that individualizes economic outcomes, removing responsibility from social institutions.

The free-market economy places a heavy emphasis on employer flexibility to maintain or improve efficiency and productivity. In response to these pressures, employers resort to varied techniques to reduce labor costs. The resulting work-based insecurity takes on myriad forms. While job loss may be the most severe in its impact on the worker, decreases in pay, increased employee responsibilities, and decreased job security or fringe benefits are all cost-reducing changes that degrade the work experience

(Starks, 2003). While the review below focuses on three areas of work instability - income volatility, job loss and contingent work - it is vital to note that this list is not exhaustive, and that in categorizing these phenomena I ignore the often-overlapping nature of job insecurity.

Income Volatility

Hacker (2006) criticizes commonly used indicators of job security, focusing on how individual income is studied. He explains that one of the reasons work instability remains largely hidden from the economic debate is the cross-sectional nature of most income data that ignores significant income fluctuations experienced over time. While incomes have risen over the last 30 years (although not as much, or as evenly as believed), they have also been characterized by increased instability. Today, incomes are more likely to experience sharp changes or ‘shocks’ than in the past. While this might be manageable if families were equally likely to experience a gain as a loss, in reality sustained losses are more common than sustained gains.

Hacker uses the Panel Study of Income Dynamics to look at income change in individuals aged 25-61 from 1993-2002. On average, individuals experienced at least one ‘poor’ year during the 10-year window, in which they earned only one-fourth as much as they did during the richest year. This means that, on average, individuals of working age experience a substantial (four-fold) swing in income at some point in a ten-year period. By comparison, between 1973-1982, the poorest year’s earnings were fully 50% of those in the richest year. Framed another way, the chance of a household

experiencing a drop of 50% or greater in their income (adjusted for family size) rose from 7.2% in 1970 to 16.8% in 2002 (Hacker, 2006)

Job loss

While a declining unemployment rate is often cited as an indicator of a strong economy, a look at the rate of unemployment since the 1980s shows a relatively even rate of job loss over time (around 13% between 1981-83 and 12% between 2001-03) (Farber, 2005). Budros (1997) estimates that downsizing is responsible for the elimination of 10 million jobs since 1979. Between 2001-2003, 33% of workers who lost their jobs were unable to find new ones, 13% secured part-time jobs. And those who secured full-time jobs earned on average 17% less than they had under their previous employment (Farber, 2005). A 1993 survey of employers found that 72% had implemented layoffs in the previous three years, and 28% had made cutbacks, specifically in management (Capelli, 1997). Layoffs were not limited to those with low seniority. A Health and Retirement Survey found that 15% of those who were laid off had 10 or more years of job experience (Capelli, 1997).

Employment instability is distributed similarly to other indicators of economic vulnerability. Among the groups with highest income volatility are the young, the uneducated, blacks, Hispanics and women. However, while patterned inequalities exist, Newman (1999) is quick to note that job instability is not solely a blue-collar problem. While in the 1970s and 1980s plant closings composed the bulk of layoffs, since the 1990s, white-collar jobs have represented a higher proportion of job loss. Between 1971-1981 white-collar workers were less than 40% of layoffs, by 1993-1994 they grew to

more than 60% (Hipple, 1997:29, see also Budros, 1997). Rates of blue-collar job loss continue to decline while that of white collar, middle class occupations is growing.

The experience of layoffs, by itself, is not new. Periodic layoffs have always been part of the industrial economy. However, the phenomenon of downsizing, ubiquitous in today's economy, is a recent development. Historically, layoffs were periods of temporary unemployment that corresponded to seasonal changes or fluctuations in market demand. By comparison, downsizing results in long periods of unemployment that require the employee to find alternative sources employment, and are the result of permanent changes in the employer's labor needs (Starks, 2003). As a result, layoffs are no longer limited to specific sets of workers who are accustomed to such seasonal patterns, but instead are applicable to virtually any worker at any time (Budros, 1997).

Contingent Work

Along with rising rates of job loss and income volatility, growth in contingent work across industries forms a third pillar of employment insecurity. Contingent work is a catchall phrase commonly used in the U.S. to describe a wide variety of non-standard employment arrangements. These include part-time work, temporary work (or 'temping'), contract work, and work paid on commission. The voluminous research on contingent work can be difficult to summarize due to the variety of work arrangements included under its umbrella, as well as to inconsistency of terminology within the literature (Kalleberg, 2000; Polivka and Nardone, 1989). I refer to specific work contingent arrangements (e.g. part-time work) using terms such as those mentioned

above. The broader category of work arrangements will be referred to as non-standard, contingent or casualized work – the last of which is commonly used in European research.

The various forms of contingent work arrangements remain one of the fastest growing forms of employment since the late 1980s (Kalleberg et al, 2000; Capelli et al. 1997;). As highlighted above, a significant minority (13%) of workers who experienced a layoff were forced to settle for part-time work even when interviewed three years after losing their job (Farber, 2005). Perhaps the most important shift that has taken place in contingent labor is its evolution from being a worker-oriented innovation to an employer-oriented solution. During the 1970s and early 1980s, contingent work arrangements were driven primarily by employee demand for work with reduced-hour commitments. This work was largely performed by women entering the labor force who used these part time jobs to balance needs for income and autonomy with family responsibilities.

Since that time, the impetus for non-standard work has come from employers in search of new ways to lower costs (Kalleberg, 2000; Polivka and Nardone, 1989). Increasing competitive pressures require businesses to cut costs and maximize profits. However, the emphasis on labor flexibility in managerial decision-making rarely incorporates the needs or views of workers (Allen and Henry, 1997:182). These pressures bring about two trends: employee downsizing and work casualization (Beard and Edwards, 1995; Kalleberg et al 2000). As a result, the proportion of the labor force working under temporary contracts has risen 11% *per year* since 1972, and the proportion working part-time increased steadily to 19% in 1993, although it has dipped slightly since that time.

In a 2000 study, Kalleberg et al characterize the range of contingent work as ‘Bad Jobs’, explaining that they are united by several undesirable characteristics including their tendency toward low pay and a lack of health insurance and pension benefits. According to Kalleberg et al, 1 in 7 American jobs meet these criteria. While the growth of contingent work as a proportion of the labor force is important, it is the characteristics of these jobs that are central to their role in creating employment insecurity. Polivka and Nardone (1989) acknowledge the difficulty of identifying appropriate measures of contingent work, pointing out that previous literature has tended to over or underestimate the contingent population through poorly specified measures. They propose an alternative approach which defines contingent work as “Any job in which an individual does not have an explicit or implicit contract for long-term employment of one in which the minimum hours worked can vary in a nonsystematic manner” (1989: 11). They use three criteria for assessing these conditions: job security, variability and unpredictability of hours, and access to benefits. Contingent work is significantly less likely to carry the benefits and stability afforded to standard work arrangements.

Kalleberg (2000) explains that contingent and third-party employment (temporary employment) make union organizing difficult because it obscures the relationship between employer and worker. The lack of benefits leaves workers and their families vulnerable. This vulnerability is enhanced by the lack of workplace seniority or tenure held by contingent workers and their disadvantaged position relative to permanent employees - both factors that limit protection during periods of downsizing. Although it is sometimes assumed that individuals working part-time or temporary jobs have

alternative sources of income and benefits, 54% of contingent workers reported that they were dependent on their jobs for economic well-being (Beard and Edwards, 1995).

Individualization of Health and Retirement Insurance

The increasing instability of employment experiences faced by so many Americans is only one half of the picture of economic insecurity in contemporary society. Today individuals in and out of the workforce are exposed to risks that were largely unknown to workers a generation ago. These new risks stem from the weakening of social insurance that for several decades protected families from the consequences of illness and old age. As the government and business has limited its responsibility for providing social safety nets, the burden of risk protection is increasingly individualized.

In 1980, 83% of medium and large businesses in the U.S. offered defined-benefit pensions; in the last two decades the proportion has shrunk to less than one-third (Hacker, 2006). In place of such pensions, defined contribution programs like 401Ks, offering less predictable, non-guaranteed benefits became the standard. In 1975, 15% of private sector workers were covered by defined-contribution plans; by 2004 that the proportion had risen to 42%. This trend coincided with fast declining rates of defined benefit plans provided to private sector workers (Weller, 2005). This pattern is significant because an increasing proportion of workers came to rely on retirement plans that carry the risk of running short if financial markets experience below-average rates of return during a worker's lifetime. Weller points out that decline in traditional pension plans has been evident in the last several years. From 2000-2004, pension coverage dropped from 57.4

% to 53.4%. Workers who do receive pension coverage are more likely to be high-income earners, white and female (Weller, 2005).

In a separate study, Weller estimates what retirement savings would have produced over the last several decades if the privatization plan proposed by President George W. Bush's Commission to Strengthen Social Security had been enacted when Social Security was first implemented. Weller estimated that, assuming employees put 10% of their income into a retirement account, savings at retirement would have allowed for between 100% to 20% of the employee's actual retirement income. The important point is that under this plan savings would be highly unpredictable and while some, such as those who retired shortly after the 1990s tech boom, would be well-compensated, others would be left with insufficient means to retire (Weller, 2006). And, in keeping with the themes of social individualization, defined-contribution plans would require employees to take on additional decision-making about how 401K dollars are invested.

Health care benefits have experienced an even greater reduction in recent years. As of 2007, 47 million Americans are without health insurance (New York Times, 2007), and only 56% of workers working 20+ hours a week have coverage. In 1980, 70% of such workers were covered. Of those with health coverage today, many are still left vulnerable as maximum benefits frequently fall short of what is needed for treatment of major illness (Graetz and Mashaw, 1999). In general, individuals and families are asked to contribute an increasing proportion of plan costs (Wiatrowski, 1995).

A Kaiser Family Foundation survey tracking annual changes in employer-provided health benefits has noted significant changes in the provision of benefits in

recent years. Their study found that the percentage of firms¹ offering health benefits fell from 69% in 2000 to 60% in 2005 (Gabel et al., 2005). Costs also have changed; premiums for coverage increased 9.2% from spring 2004 to spring 2005 – a sizable increase, but actually representing a decline in the growth of premium costs from the period 2000-2004, in which each year experienced double-digit growth totaling an increase of 73% since 2000. Indeed, premium increases outpaced inflation for 2005 by 6 percentage points (Gabel et al., 2005). Among employees of medium and large firms, the percentage of full-time employees with deductibles greater than \$100 rose from 8% in 1980 to 54% in 1993, with 25% of these workers carrying deductibles of more than \$250 (Bureau of Labor Statistics, 1994). While cost sharing for workers under single coverage plans has increased modestly, (11% in 1988 to 16% in 2005), researchers point out that significant variation exists among plan holders. Finally, employees today face increased cost sharing for hospitalizations compared to that of the 1990s (Gabel et al., 2005).

Of course, health care coverage varies significantly according to employment sector, industry and union status. Workers in the public sector are more likely to be covered than those in the private sector, and workers in goods-producing industries, as well as in construction and mining, are more likely to have coverage than service sector workers, particularly those in retail trade and services (Wiatrowski, 1995). In general, industries with higher rates of health care coverage are declining in the U.S., while those that tend to offer less insurance are growing. As expected, full-time workers with union membership were more likely to receive health insurance in 1992 (92%) (Wiatrowski, 1995).

¹ Firms included in the sample were taken from the Dun and Bradstreet listing of U.S. firms and included businesses ranging in size from three to hundreds or thousands of employees in both the public and private sectors. The overall response rate was 48%.

The effects of these declines are clearly reflected in Americans' attitudes about health care coverage. In a recent nationally representative poll conducted by the New York Times, 55% of Americans cited 'health care for all' as the most important domestic issue, placing it ahead of such typically popular concerns as immigration (19%), traditional values (13%) and cutting taxes (11%). 90% of Americans said that they felt the health care system needed either 'fundamental changes' or 'complete rebuilding', and 70% described the seriousness of Americans living without health insurance as 'very serious'. However, respondents were somewhat more ambivalent about whether the government or private insurance would do a better job of providing medical coverage (New York Times, 2007).

Research on Americans' Reactions to Economic Insecurity

The effects of job insecurity are also apparent in the reported attitudes of U.S. workers toward their economic well-being. For two decades, an annual NORC survey of worker satisfaction has reported that between one-fourth and one-fifth of workers describe their financial situation as deteriorated in the 'last few years'. Interestingly, individuals' assessments worsened even through periods of low unemployment. In a 1982 survey taken during a severe recession and relatively high unemployment rates (around 10%), 12% of workers stated that they were "frequently concerned about being laid off". By 1996, with unemployment rates around 5%, 46% of those surveyed described themselves as "Frequently concerned" (Hacker, 2006). Similarly, data from the General Social Survey in 1999 indicates that Americans were more fearful of losing their jobs, and had greater concern about obtaining a comparable replacement job, than

they were in the 1970s and 1980s. Schmidt (1999) reports this finding in relation to actual employment rates during each decade, and finds that in the 1990s, Americans were more pessimistic relative to the unemployment rate than they had been during the previous two decades.

In a 1995 New York Times survey, 53% of Americans reported that their job was insecure, 83% said that it was hard to find a good job in their community, and 48% expressed concern that they might lose their job and have difficulty finding a new one in their area (Hacker, 2006). Results from The Survey of Economic Expectations show that 25% of Americans viewed themselves as having a 20% or higher chance of both job loss and loss of health insurance coverage in the next year (Dominitz and Manski, 1997).

Using the Indiana Survey of Workers in a Polarized Economy, Starks (2003) examines how the experience of insecure work was related to individuals' optimism or pessimism about their economic futures. In this study Starks indexes 11 measures of relative optimism from responses to statements such as: "Most working people today will have a comfortable retirement" and "It's harder and harder to make ends meet financially for most families". Scores on this index were predicted by whether the respondent, a household member, or an acquaintance of the respondent had experienced downsizing, reorganization at work or job slide². The study finds that, overall, Indiana workers were pessimistic about economic opportunity. In response to 10 of the 11 optimism measures, a minority reported optimism on a Likert-type scale. Respondents were particularly pessimistic about the ability to meet educational and health care expenses. Starks

² In Starks (2003), the term 'job slide' refers to "the trajectory of the respondent's employment situation in terms of income and benefits over a five-year period." This is measured using a composite scale of 5 questions on income, fringe benefits, paid time off, job security and general employment situation.

concludes that job deterioration and experience with layoffs were associated with greater pessimism toward future economic opportunity.

These sentiments represent a sharp contrast to official reports that the U.S. economy was healthy and providing ample opportunities for hard working Americans throughout the 1990s and early 2000s.

Financial Consequences of Employment Insecurity

In the last two decades job loss, income instability and work casualization have led to what Newman (1999) refers to as *intragenerational* downward mobility. While *intergenerational* mobility usually refers to an individual's socio-economic status relative to the previous generation, *intragenerational* mobility refers to a shift in status within a single individual's career. To estimate the size of the population that has experienced downward mobility, Newman looks at displaced workers who had been at their jobs at least 5 years. Those considered to have experienced downward mobility 1) had experienced an income cut of at least 20%, 2) remained unemployed three years after losing their job, 3) were only able to locate part-time work, or 4) had left the labor force after they lost their jobs. Adding these types together, Newman found that 46% of 'long-tenured' workers experienced downward mobility in the 1990s. This percentage represents an improvement over the 55% of workers with similar experiences in the 1980s, however, as Newman points out, the strong economy during most of the 1990s would suggest greater improvement. In the end, almost half of workers experienced significant financial insecurity following job loss.

An examination of households' economic welfare indicates the deep impact of economic insecurity. Personal savings rates have plummeted from 10% in the 1970s to between 0-1% in 2006 (Commerce Department, 2007). In 2005, the personal savings rate was -0.5% (Hacker, 2006), the worst rate since the Great Depression. Asset levels for the majority of the population are insufficient to secure against difficult financial times. Middle-class households with an annual income of \$50,000 have on average \$12,500 in assets, most of which, however, are not readily transferable into income (Graetz and Mashaw, 1999). The level of assets among the working class approaches zero.

The impact of these multiple sources of economic vulnerability is evident in the rising rates of personal bankruptcy. In 1980, fewer than 290,000 people filed for bankruptcy. By 2005 that number had risen to roughly 2,000,000 (Hacker, 2006). Those declaring bankruptcy are more likely to be educated and married than, and equally likely to have a 'good' (read stable, full-time) job as, those not declaring bankruptcy. Mortgage foreclosures, another effect of economic vulnerability, had increased five-fold since the early 1970s, *before the housing crisis of 2008*. Lack of savings and limited assets both increase families' reliance on income, thereby increasing their risk of financial chaos when job loss or income reduction occurs.

There is a substantial body of research on the impact of economic insecurity on workers, a sampling of which is provided below. One weakness of this research is its almost exclusive focus on the issue of job instability, leaving the effects of weakened benefits largely unexamined. An exception to this is the indirect examination of benefit loss and its consequences that is implicit to studies on contingent work.

Psychosocial Processes and Economic Insecurity

The previous section described some of the financial consequences that families face when their jobs and benefits are insecure. Beyond these more concrete ill-effects, economic insecurity may also leave individuals with a subjective sense of being at risk. The perception of insecurity is important for many reasons, including families' quality of life. It also plays an important role in the relationship between insecurity and consumption behavior. As will be argued in Chapter Three, consumers' psychological dispositions are an important component in their spending decisions.

The uncertainty and unpredictability that often accompany the experience of economic insecurity are two significant psychological outcomes. Uncertainty in important areas of life such as work and economic well-being generates stress on individuals and families which can impact their ability to function successfully. As Nolan notes, when stress is present at high levels it can create a 'paralyzing effect on the coping process' (Nolan, p. 185 in Heery and Salmon). Capelli (1997) finds that after companies downsized their workforce, employee morale among the remaining workers dropped by 68%. From a 1994 survey of Canadian adults, McDonough (2000) finds that high levels of job insecurity, as reported by respondents' agreement with the statement 'Your job security is good', were associated with lowered self-rated health, increased distress and the use of medications.

Beard and Edwards (1995) identify several key characteristics of contingent work that may contribute to individuals' sense of insecurity and increased stress. Of particular interest, Beard and Edwards point out the importance of predictability and control for worker satisfaction and well-being. Miller (1981) elaborates, pointing to two important

types of predictability: 1) knowledge of the conditions under which an event will occur, and 2) knowledge of the experience and effects of that event. Research shows that a lack of predictability in the workplace is linked to lower self-esteem and well-being (Beard and Edwards, 1995). Control in the work environment is another important component in creating a sense of job security; however, it is in short supply among contingent workers. Narayanan et al. (1986), Ganster (in Beard and Edwards, 1995) and McDonough (2000) find that limited control in the work environment was associated with reduced job satisfaction, job involvement and commitment, low motivation and performance, and poor physical and mental health among workers. Finally, two characteristics, common in contingent work - strained relations with an employer and unfavorable social comparisons to fellow employees - are likely to be relevant factors in other forms of unstable work. Veenstra et al. (2004) tests the importance of employer-employee relations on work performance and found that public sector employees who were assigned to permanent work rather than casual or part-time projects had better job satisfaction and increased willingness to contribute to the organization. Abramis (1994) similarly finds a negative linear relationship between job insecurity and work performance and a positive relationship between insecurity and job dissatisfaction, anxiety and depression.

Evidence of the psychosocial outcomes of job insecurity on workers is not unanimous. For example, Saloniemi et al (2004) compares permanent and fixed-term public sector employees in Finland, to determine whether workers with fixed-term contracts were more likely to experience negative workplace outcomes, including feelings of poor job control and greater workplace demands. Contrary to their

expectations, they find that higher work demands and low control were more common among permanent employees. The authors recommend caution in interpreting these findings due to their non-intuitive nature.

And yet overall, job insecurity appears to be related to a variety of negative psychological outcomes. To better understand why job instability and weakened safety nets create an ongoing sense of insecurity among workers one needs to consider individuals' lived experiences in such an economic environment. To this end, it is worth keeping in mind Beard and Edwards' (1995) emphasis on predictability and control as central to a creating work security. It is precisely a lack of predictability and control that characterizes contemporary economic life. As layoffs become more frequent and contingent work more common, individuals carry the burden of adjusting to an uncertain economic future. Workers have little opportunity to anticipate what jobs might become available or whether they will be the next victims of downsizing. Life opportunities change at such a rapid rate that it becomes impossible to guess future outcomes (Rojek, 2004). As Sennett puts it: "risk-taking lacks mathematically the quality of a narrative, in which one event leads to and conditions the next." (1998, p.83). The image of a narrative illustrates one way in which individuals make sense of and respond to events; narrative allows past experiences to inform current decisions and events.

But the risk-taking necessary to navigate frequent economic pitfalls may elude individuals' ability to develop narratives to direct them. This is the plight not of just a few, risk-loving individuals, but the common fate of a growing portion of the population. According to Sennett, anxiety is a natural response to such demands for flexibility from workers. Lacking knowledge of how to mitigate the risks of a variety of negative

outcomes, individuals may become paralyzed with uncertainty. The inability to use past or present conditions as a template for predicting the future is one of the central characteristics of these contemporary risks (Beck, 1999). Similarly, Bourdieu (1998) states that a person's ability to "project themselves into the future is the precondition for all so-called rational conduction" (p. 84). Prudent choices may reduce the likelihood of experiencing economic misfortune, but they cannot eliminate it (Hacker, 2006).

Beck explains that contemporary risks are often 'socially invisible'; that is, the average person, even society as a whole, goes about life unaware of them. A worker may sense that their current job is insecure, but will generally not know what course of action (or inaction) may remedy or exacerbate the situation. According to Nolan et al. (in Heery and Salmon, 2000) it is exactly this type of ambiguity that puts the greatest strain on workers. In fact, workers in their study described the uncertainty preceding a layoff as more unpleasant than the actual experience of being laid off.

Generalized insecurity arises as a chronic reaction to tenuous working conditions and the individualization of responsibility. Moreover, as Bauman explains, the experience of economic instability extends well beyond those directly affected:

"Many people have already been directly hit by the mysterious forces variously dubbed 'competitiveness', 'recession'...but the blows reverberate far beyond their direct targets, and it is not just those who were overnight demoted, degraded, deprived of their dignity and/or livelihood who have been hit...The message is simply: everyone is potentially redundant or replaceable, and so everyone is vulnerable and any social position, however elevated and powerful it might seem now, is in the longer run precarious." (Bauman, 2001, 51-52).

Bourdieu (1998), points to additional sources of worker uncertainty: the surplus of workers (created by 'flexibilized' labor policies) at all occupational strata "helps to give all those in work the sense that they are in no way irreplaceable and that their work, their jobs, are in some way a privilege". As Conley (2002) notes in his discussion of the

public sector, casualized labor provides employers with new methods of undermining the conditions of permanent employees.

While not the subject of this project, it is worth noting that economic insecurity is exacerbated by the individualization of other areas of social life. Weakened social support through the family or community and the lack of secondary sources of income, which were more common in the industrial era, create a particularly tenuous position when job loss or work reduction occurs (Beck, 1992). Without traditional social supports, individuals become more reliant on the market to provide the services and relationships they previously derived from family and friends. These multiple processes of individualization are mutually reinforcing. As Bauman notes, flexible work requires the ability to pick up and move to where the jobs are, when demanded, if one's chances are to be optimized. Long-term relationships are less unfeasible and potentially limiting as they serve only to confine and hamper future moves. All of which reaffirms the notion that problems and solutions are best encountered individually (Beck, 1992; Mythen, 2004).

The evidence within the empirical and theoretical literatures strongly suggests that the various forms of economic instability are a significant source of insecurity among workers and families in contemporary American society. As highlighted above, this insecurity has a number of important and unique characteristics, including the generalized and chronic nature of this unease, the difficulty in identifying the exact source of the risk, the unpredictability of threats in terms of when and whether they will occur, and what the likely repercussions will be, and the inability to identify paths to reliably mitigate potential sources of threat.

CHAPTER THREE: LINKING ECONOMIC INSECURITY AND CONSUMER SPENDING

This chapter presents literature, both theoretical and empirical, from the field of Economics; this body of work addresses how individuals experience and respond to risk. Central to this field of study is the Rational Model of Consumer Behavior. The second section of this chapter summarizes empirical literature that both supports and refutes the tenets of rational choice theory. The chapter also presents an alternative theory for individual responses to insecurity in the context of spending behavior, and concludes with an overview of how socio-demographic characteristics affect consumer tendencies.

Although the connection between consumer behavior and changes in work and security under late-capitalism has not been researched extensively within Sociology, such work, both theoretical and empirical, does exist in the field of Economics. The primary focus, shared by many economists, is on understanding how unemployment or the threat of unemployment affects individuals' spending and saving behavior. This subject has been of interest since at least the 1950s and has generally been limited to understanding this relationship within the context of more stable, modern work arrangements.

Two Rational Model theories, the Life-Cycle Theory of spending and the Permanent Income Hypothesis, dominate the dialogue within economics on how households allocate assets between spending and saving. Their dominance exists despite significant weaknesses brought to light through empirical testing. While amendments to both theories have attempted to reconcile differences between expected and observed behavior, there continues to be substantial disagreement about how households respond to perceived and experienced risks when making spending decisions.

As background, I provide a discussion of the central tenets of these theories, their addendums, and the results of empirical work on consumer behavior. Before beginning, a note: the Economics literature approaches the study of consumption mainly by focusing on household saving behavior. Savings serve as an indirect measure of the non-consumption choice, but also make intuitive sense given economic arguments about ‘prudent’ consumer behavior. Therefore, it should be understood that in much of the economics literature reviewed below it is saving rather than spending behavior that is of primary interest.

Economic Theories of Spending and Saving

The Rational Actor

Economic theory seeking to explain spending and saving behavior is based on the neoclassical assumption that the consumer is reducible to ‘homo economicus’, an abstract agent that in all cases seeks to maximize utility. Individuals operate ‘rationally’ in that all choices are oriented toward meeting one’s goals and preferences. In fact, within neoclassical economics, rational behavior is *defined* as behavior that acts in the best interests of the individual. This notion of consumer sovereignty is rooted in the assumption that individuals are best able to judge their own welfare and to advance their own interests (Redmond, 2000). This type of behavior is termed optimizing, or rational behavior. Since in all situations individuals are expected to act in accordance with their preferences, in most cases the only factors that constrain individual action are 1) financial boundaries (the difference between the individual’s access to resources and the relative cost of the outcome pursued) and 2) institutional constraints (Rasanen, 2001; Redmond,

2000). Under this model individual behavior is controlled by costs and prices and motivated by the urge to optimize personal benefits. Rational actor theories go one step further by arguing that when consumers act to optimize their preferences they are, necessarily, acting in their own best interests (Redmond, 2000; Thaler, 1994).

Another assumption of the rational actor theory is that individuals are able to maximize utility because they have full access to information, not only about their own needs and preferences, but also about the market of possible commodities and services. The theory implies perfect knowledge of all available products and the costs associated with obtaining them - even knowledge information about how costs may change in the future. Although most economists would admit that perfect knowledge of these very complex components is only a theoretical assumption, the premise remains central to the spending and saving models discussed below, as well as to the empirical research which tests them.

Life-Cycle Theories

The Life-Cycle (L-C) theory of saving and the Permanent Income Hypothesis (PIH) are complementary theories that seek to explain how individuals balance spending and saving decisions over the life course. L-C theory, which is originally attributed to Modigliani & Brumberg (1954), asserts that individuals integrate information about their current and future income with information about their consumption needs *over an anticipated life span*, with the goal of smoothing consumption over the course of their lives. The most important component of this theory is the saving decision. Saving is driven by balancing individuals' taste for current consumption against their preferred

consumption later in life. If an individual wishes to maintain a given standard of living through retirement, they must restrict current consumption (not spend their entire income) and save some portion of income to meet anticipated consumption preferences in later life.

Milton Friedman's Permanent Income Hypothesis (1957), fills out L-C theory, explaining that the decision to spend or save is not predicated solely upon current income but on a variety of factors called "permanent income," which include current and future expected income, wealth holdings and financial and human assets including education and experience. Using these factors, individuals assess their permanent or lifetime expected income and decide how to save at different times during the life course.

Life-Cycle theories tend to predict a curvilinear distribution of saving over the life course, in which an individual during their early adult years saves little and may in fact absorb debt (negative savings) – the most common type being education. According to the L-C theories, an individual 'overspends' in anticipation of their permanent income, meaning that although their current income is low, the individual anticipates earning a compensatory amount of money further into their career. During the middle working years income rises; and although consumption also increases, the latter does not rise to the point of consuming all current income. Instead the individual 'smoothes' their consumption, saving some money for future, expected income loss. Finally, during later career and retirement, income drops, but consumption can remain high due to income from earlier saving. Following such a pattern allows the individual roughly to maintain their desired level of consumption throughout the life course, and to avoid an undesired drop in consumption during retirement.

As Thaler (1994) explains, Life Cycle Theory and the Permanent Income Hypothesis both accept the primary economic assumption of near ‘perfect knowledge’ over the life course. The presumption is that households engage in multi-period dynamic maximization; they make current decisions based on a full knowledge of what their desired consumption will be throughout the life course. This means that utility is maximized not just in the present but also over the long term. Of course a substantial burden is assumed to be placed on each consumer, to integrate vast information and make the corresponding choices amidst outside pressures.

In fact, there are many conceptual reasons to question whether the Life-Cycle theories actually work as they are prescribed. To the extent that these theories depend upon individuals’ ability to learn (from past decisions, about future possibilities), work by Einhorn and Hogarth (1978) argues that effective learning can only take place under specific conditions which are often lacking as individuals decide to spend or save. Decision making breaks down when: a) outcomes of actions are delayed and not easily attributable to a particular action, b) the reliability of feedback is disrupted, c) there is no information about what the outcome would have been if another option was chosen, and d) the decisions being made are unique and therefore provide little chance for future implementation or revision (Einhorn and Hogarth, 1978).

Thaler (1994) also criticizes the idea of optimizing consumers, making two similar points: 1) that the dynamic maximization problem is too difficult for most consumers to solve, and 2) that impatient consumers will lack the self-control to save in a manner consistent with optimization. Thaler (1990; 1994) argues for a more moderate position in which optimizing theory is accepted as a good predictor of actual behavior in

some situations but not others. He poses three test questions with which to discern the appropriateness of applying such theories: 1) How hard is the proposed optimizing task to perform? Individuals will be more likely to optimize when the task is easier. 2) Are there good opportunities for learning? Tasks that are repetitive offer an opportunity for learning that can be implemented at later times. 3) Is there a ‘simple rule of thumb’ to assist the individual in coming to an appropriate conclusion? That is, are there simple principles that the individual can adopt that will ease the decision making process?

As it turns out, observed behavior fails to meet the expectations of the maximization theories. As Thaler explains, actual individuals are “boundedly rational,” in that they have limited intellectual capacities. Bounded rationality troubles individuals’ assessments about appropriate consumption-smoothing. Also, since planning saving and spending behavior in preparation for long-term eventualities like retirement takes place only once for each individual, there is limited opportunity for repetitive learning. Finally, there are only limited ‘rules of thumb’ available as a resource for decision-making. Individuals often look to family and friends for information on how to spend and save; however unique are their own income histories. More complicating still is the great variation in potential for risk so prevalent under late-capitalism. Shefrin and Thaler (1988) argue that not only is the optimization prescribed by life-cycle theories too difficult for most consumers to solve, but impatient consumers lack the self-control needed to defer consumption that is based on current income. As an alternative, Shefrin and Thaler outline a Behavioral Life-Cycle Hypothesis that accounts for weakened self-control and imperfect mental accounting by individuals.

Graham and Isaac (2002) confirm the presence of rationality limitations in their survey of pay cycle preferences among university faculty. The authors sought to determine whether faculty members preferred to receive their annual salary dispersed over the nine-month academic year or to receive lower payments spread out over 12 months. Optimization theory would expect that earners choose to receive income in nine installments so that 'extra' income can be invested, yielding greater total income. However, Graham and Isaac found that 70% of respondents chose to receive payments according to the 12-month schedule and only 7% of those on the 12-month schedule considered the loss of interest in making this decision. When asked why they had made the respective decisions, those on the 12-month plan cited "ease of planning". The authors attribute these findings to an aversion to self-smoothing consumption under conditions of varying income (Graham and Isaac, 2002). In this case, respondents consciously choose the sub-optimal plan, preferring instead to avoid the difficulties of self-restraint imposed by a varying pay schedule.

According to Bernheim et al (2001), there is little evidence to suggest that households use savings to smooth the effects of predictable income discontinuities on consumption. The authors look at consumption changes at retirement in order to understand considerable differences in saving and wealth characteristics between households – differences that remain even controlling for SES characteristics. They find that life-cycle theories do a poor job of accounting for the variation in saving at retirement. "Although it may be possible to formulate some model of rational life-cycle planning that would account for our findings, in our view, the empirical patterns in this paper are more easily explained if one steps outside the framework of rational, farsighted

optimization.” (Bernheim, et al., 2001 p.855)

A more general critique of the assumptions of the life-cycle maximization theory can be found in the experimental work of Tversky and Kahneman (1986). Their study examines the principles of invariance and dominance³ that the authors claim underlies choice maximization. Tversky and Kahneman ask participants to choose between several competing options, for example different treatment options for a given disease, making clear their associated probabilities of success and risk. In keeping with the decision-making assumed in a life-cycle model, participants weigh immediate benefits against costs. But Tversky and Kahneman find that participants obeyed the principles of choice maximization only when the benefits and conditions of each were transparent. In other conditions, participants were either illogical or inconsistent in their responses.

Empirical tests of the rational model of consumer behavior

The foregoing work suggests that there may be significant shortcomings in the ability of life-cycle theories to explain consumers’ choices to spend or save. Life-Cycle theories have come under scrutiny due to inconsistencies between the theories’ predications and observed data on household consumption and saving. In this section I review empirical work pointing up the weaknesses associated with these theories.

Carroll (1997) states that: “The standard version of the LC/PIH model remains the most commonly used framework for both micro and macro analysis of consumption behavior, despite a large and growing body of evidence that it does a poor job of explaining those data.” (p. 49). Consider that Americans save less of their income than

³ Invariance prescribes that: “different representations of the same choice problem should yield the same preference”. The dominance principle states that: when one option is better than or as good as others in all situations then it will be chosen. (Tversky and Kahneman, 1986).

members of any other developed country. Harris and Steindel (1991) estimate that savings are less than half the amount needed for retirement, while Bernheim (1993b) concludes that baby boomers are saving between 34-38% of what is necessary to maintain their consumption level in retirement. Using higher assumed rates of return on investments and including housing wealth, Gale (1997) contends that closer to 2/3rds of Americans are saving the minimum needed for retirement. With savings rates so low, the proposition that individuals' consumption choices are in keeping with their long-term interests is questionable. Schor (1998) found that 60% of American families had enough savings to survive for one month in the event income loss.

One central limitation to life-cycle theories that is of particular interest is the excess sensitivity of consumption to current income. This excess sensitivity is a consistent finding in the empirical literature that tests the Permanent Income Hypothesis. According to the PIH consumption decisions are based on income *over the life course*. And yet numerous studies have found that consumption follows *current* income more closely than anticipated. This is observed in several studies which find that when household income drops as a result of reduced employment, consumption falls by a commensurate amount. This research shows that when faced with lowered income, spending is reduced – possibly to avoid excessive debt.

To explain this discrepancy with the expectations of the life-cycle theories, some economists have amended their theses, stating that individual behavior is influenced by a precautionary savings motive. In a precautionary manner, individuals *reduce* consumption under situations of uncertainty, allowing families to insure against risks

such as income shocks. Numerous empirical projects have tested for the presence of a precautionary motive in household saving behavior, with mixed results (Carroll, 2003).

Using a nationally-representative sample of Swedish citizens, as well as a non-representative sample of Swedish university students, Selart and Karlsson (1997) found evidence of (hypothetical) precautionary behavior in respondents' consumption choices associated with losses or gains in income. Respondents were asked whether their usual degree of consumption would change if they a) received a lump sum income increase of either \$850 or \$1,700 or b) experienced a loss of income of either \$425 or \$850. The authors found that respondents were more likely to adjust consumption under the condition of income loss than income gain. This finding is in agreement with the principle of loss aversion which states that individuals weigh losses more heavily than gains when making consumption choices (Selart and Karlsson, 1997).

Madsen and McAleer (2001) found that excess sensitivity to current income could not be attributed to liquidity constraints (lack of access to savings or credit), but rather to uncertainty and the temptation to spend out of current income. According to Madsen and McAleer, consumption was less constrained by access to money but rather, intentionally limited due to uncertainty on the part of household members about future income. In this study, inflation was used as the measure of uncertainty as it restricts disposable income. Lusardi (1998) used self-reported likelihoods of job loss among Americans nearing retirement age and found that those who face higher income risk save more and accumulate more wealth. The same study found several indicators of intertemporal optimization; households whose respondents were more risk-averse and respondents with

long planning horizons accumulated more wealth than less prudent households. Those respondents that expected their earnings to go down in future years held larger assets.

Carroll (2003) constructed individual level predicted probabilities of job loss and found additional evidence of saving among households that faced greater job insecurity. Benito (2005) looked at the affect of job security on household consumption using food consumption and the purchase of large consumer durables as a proxy. In this study risk at time t was measured by the probability of becoming unemployed at later panels of data. Individuals who eventually became unemployed were viewed as higher risk at the original time point. Benito found that a one standard deviation increase in unemployment risk for the head of household was estimated to reduce household consumption by 1.6%. Moving from the bottom to the top of the distribution of job insecurity implied a decrease in consumption of 6.4%. Palumbo (1999) focuses solely on elderly couples and finds that in the context of the expectations suggested by life-cycle theories, the elderly underspend or save more than is necessary, especially when they are anticipating illness. And, finally, Gruber and Yelowitz (1999) document that Medicaid eligibility among low income households reduces wealth holdings and increases total consumption when total health expenditures are controlled for. The authors argue that households that become eligible for public health insurance have a disincentive to save in a precautionary manner and instead increase spending.

Dissenting Research

In contrast to these findings, a separate body of research has found conflicting results with regard to the presence of a precautionary motive. Dynan (1993), used

consumption variability rather than the more commonly used income variability to measure risk. She estimated the presence of a very small precautionary motive, one which she describes as ‘inconsistent with widely accepted beliefs about risk aversion’. A study testing the presence of precautionary saving using the 1989 Italian Survey of Household Income and Wealth, found that precautionary saving explained only a small fraction of saving behavior, casting doubts on the effect of earnings uncertainty on a precautionary response (Guiso, et al., 1992). Skinner (1988) examined whether occupation was related to households’ inclination to save with the idea that those in riskier occupations would have higher savings (lower consumption). In fact, Skinner found that workers in riskier occupations such as self-employment and sales saved significantly *less* than other workers, controlling for economic characteristics of the household. Kuehlwein (1991) tested Skinner’s finding, citing the limitation of occupation as an index of consumer uncertainty. Kuehlwein improved on this measure by estimating the expectational errors for the consumption Euler equation⁴, and found that greater consumption uncertainty creates a flatter consumption trajectory, supporting Skinner’s findings (Kuehlwein, 1991).

In one of the only studies on the impact of insecurity from sources outside employment-based uncertainty, Starr-McCluer (1996) looked at how the presence of health insurance is related to households’ savings behavior. According to expectations of the precautionary motive, all else being equal, “an uninsured household faces greater uncertainty in health costs than an insured counterpart, and so has a stronger incentive to hold assets against the possibility of accident or illness” (Starr-McCluer, 1996. p.285).

⁴ The Euler equation states that as income rises, the proportion of household spending on luxury goods will increase relative to spending on necessities.

However, in contradiction to this expectation, Starr-McCluer finds that insured households maintained higher assets than comparable households without coverage, controlling for a variety of socio-demographic characteristics including wealth holding, age, race, gender and marital status, education and employment status of the head of household, the presence of children, health status and past and future expected inheritance. This finding was robust across three different measures of savings and asset holdings. In addition, efforts were made to account for issues of selectivity among particularly risk-averse households who might be expected to carry substantial savings and also invest unusual effort in obtaining insurance coverage.

The Economics literature presents evidence that both confirms and contradicts the presence of a precautionary motive in savings behavior. As this model has been the primary mechanism for resolving the discrepancies between life-cycle theories and observed household economic behavior, it is argued here that economics has been unable to fully describe the relationship between perceived insecurity and households' spending and saving behavior.

While economic models work under the assumption that individuals and households will conserve a greater proportion of income and assets in the form of savings during periods of greater insecurity, the findings from research discussed above provides, at best, mixed support for this assumption. A potential critique of this assumption necessarily involves a closer look at the rational or optimizing nature and ability of individuals. According to the precautionary motive, households are presumed to increase savings in the face of heightened insecurity in order to protect the household against undesirable consumption shocks. While this is in contrast to the emphasis among life-cycle theories of the

importance of permanent income, it remains consistent with the notion of individuals as maximizers of utility over the long term. The balance between spending and saving most likely to insure the family's economic well-being is maintained under the precautionary motive while accounting for preferences in risk-aversion and consumption smoothing.

This explanation of consumer behavior as rational and utility-maximizing is confronted from two directions; the first is the empirical literature on saving behavior discussed above which in several cases found that households with greater insecurity saved less and consumed more. The second source of scrutiny comes from the sociological literature, particularly the work of several prominent social theorists. They suggest that the nature of social life in contemporary, post-industrial societies makes the rational action prescribed by economic theory at the least difficult to perform and potentially impotent in its benefits for individuals.

A Sociological Perspective on Insecurity and Consumption

The nature of rational decision-making in insecure conditions

To develop a sociological position on the effects of economic insecurity on consumer spending, one must recall features of the contemporary economic environment discussed in Chapter 2. The rational action models assume an economic environment in which sources of risk are more predictable and less differentiated than is true in contemporary times. Late-capitalism is characterized largely by instability and insecurity of life opportunities primarily due to the way work and benefits are distributed and

secured. Individuals and families have an increasingly difficult time predicting whether their job, income and benefits will be secure into the future. Contemporary workers live in risky economic times that require them to be constantly adaptive in their approaches both at work and in their personal lives:

“Hedge your bets”; this is the golden rule of consumer rationality. In the life equations there are but variables and no constants, and the variables alter their value too often and too fast to keep track of change, let alone to guess its future twists and turns. This is a game of snakes and ladders; the road from the bottom to the top, and even more that from the top to the bottom is abominably short – the rises and falls are swift like casting a die, and happen with little or no warning.” (Zygmunt Bauman in Rojek, 2004).

In response to such conditions, flexibility or ‘flightiness’, as Bauman suggests, become necessary characteristics for navigating a continually shifting world. The interviews in Hacker’s account of risk shifting put a face on these difficulties. He recounts many families who followed the traditionally recommended steps to becoming financially successful, and still found themselves in hard times after experiencing downsizing or financially devastating family illness (Hacker, 2006). Prudent choices may reduce risks, but cannot completely account for the range of new possible outcomes.

Another weakness in Economics’ approach to insecurity is its frequent concentration on a single form in insecurity – risk of job loss – rather than assessing the affects of multiple sources of insecurity. What makes the contemporary situation so potent, with respect to individuals experience of insecurity, is the numerous, often unpredictable sources from which hardship threatens to arise. Bourdieu draws a clear connection between chronic insecurity and the ability of individuals to act with the kind of rational forethought suggested by economic theories. Fundamental, according to Bourdieu, is the ability to ‘project themselves into the future’ (1998, p. 83), that is to predict with some reliability what their economic future will hold – will jobs be available

in the future? Will a reduction in income become necessary in order to stay employed? Will there be adequate protection when a family member falls ill? “The capacity for future projections is the condition of all behavior considered to be rational... To conceive of a revolutionary project, that is to have a well thought out intention to transform the present in reference to a projected future, a modicum of hold on the present is needed.” (Pierre Bourdieu in Bauman, 2002, p. 51). It is these kinds of predictions, which have become more difficult as the sources of risk multiply, becoming more diffuse and unpredictable.

Such difficulties are captured vividly in interviews with ‘insecure’ workers. One participant in Conley’s (2002) interview study articulates the complexities clearly; a social care worker working under a fixed-term contract, she explains: “If you have a family you can’t plan long term. You can’t plan a holiday, you can’t plan what is going to happen six months down the road. You can’t plan whether you are going to have a job tomorrow. It is just a nightmare.” This description was a characteristic finding among temporary employees in Conley’s interviews with public sector workers in the UK.

The difficulty of planning

In describing contemporary risks, Beck (1999) points to the unique ability of contemporary risk to ‘transpose the relationship between past, present and future’. Unlike risks in the premodern era which were generally cyclical and thus predictable, the past no longer serves as a useful mechanism for anticipating future events. When conditions are constantly shifting past events are poor predictors of future risks. Thus individuals can no longer reliably use the past as a template for predicting the future

(Beck, 1999). The ability to plan requires "...a goal or desired future state and a means of achieving that goal. Goals are prior to and independent of means, while the means are selected on the basis of a belief in their efficacy, in other words a formal type of economic rationality" (Polanyi, 1968 in Redmond, 2001). In an economically insecure environment, both the goal and the means of achieving it may become hard to identify and the efficacy of both is often questionable.

The personal consequences of ineffective planning are made more severe in a culture in which economic failure is seen as an individual rather than a social product. The tendency to place blame on individuals when goals go unmet is based on the premise that outcomes are controllable. This is the essence of planning. However, when long-term outcomes are unpredictable individuals may lose the path to a desirable future.

Wallulis (1998) discusses the psychology of planning in an unpredictable economic environment:

"The individual planning office can no longer plan its work history with the confidence it once had when promises of career employment were more readily made. However, the planning office is very likely to hold itself just as responsible for its self-perceived failures and shortcomings when the company breaks off its ties...It is motivated by an anxiety not only about being employed or of keeping employability, but about planning itself and its ultimate usefulness. There is a possible fear that not only is my planning inadequate but planning itself is no longer helpful. There is doubt that the life planning that has been so important and useful in the era of the secure individual will 'deliver the goods' in the way that it once did in a period of permanent employment." (Wallulis, 1998; 168)

When planning becomes ineffective as it seems to be for individuals experiencing economic insecurity, traditional economic assumptions about classifying 'rational economic behavior' are questioned. This is exemplified by the assumption that far-sighted decision-making is the optimized individual orientation.

Difficulties experienced in individual decision-making are exacerbated by similar, macro-level trends. Sennett (1998) points out that today's late-capitalist economy is

dominated by the short-term. Decisions are based on *predictable* outcomes however; they must necessarily be those of the very short-term. This short-term focus becomes a more rational alternative than attempting to calculate uncertain future outcomes. Sennett asks an important question: “How do we decide what is of lasting value in ourselves in a society which is impatient, which focuses on the immediate moment? How can long-term goals be pursued in an economy devoted to the short term?” (Sennett, 1998: 10).

A change in ‘rational behavior’ is what Bourdieu suggests has, in fact, taken place. Individuals’ ‘flexible’, if short-sighted approaches *are* rational reactions to a world in which one is forced to treat the future as a threat (Bourdieu 1998). This new rational behavior, rather than involving long-term utility optimization, is now based on assessments of the short-term utility of choices and actions.

The possibility of a transition from a far-sighted to a near-sighted focus in how individuals optimize has significant implications for consumer behavior. It provides one potential resolution to inconsistency between economic theory and empirical estimates of life cycle consumption smoothing or a precautionary motive in households’ savings behavior. If the underlying assumption that long-term orientations are rational is no longer appropriate to the contemporary economic environment, then models intended to predict such decisions will be vulnerable to problems.

One resolution to the inconsistent findings within economic research on insecurity and consumption is that in situations in which a potential negative event (such as job loss or illness) is either imminent or highly predictable individuals will act in a precautionary manner and reduce their consumption. However, when potential sources of risk are more

ambiguous and unpredictable, individuals resort to a shorter-term mindset – in effect throwing up their hands in uncertainty – and may spend in larger or more volatile ways.

This reading is supported by Palumbo (1999) in which elderly couples had lower consumption particularly when they were anticipating illness. Tversky and Kahneman (1986) arrive at a similar finding when examining the invariance of participants' responses to competing scenarios. Their experiment found that participants were consistent in their selection of options only when the conditions of each were transparent, but were inconsistent under other circumstances. There is also indirect support in Kuehlwein (1991) and Skinner (1988). In both cases, respondents that were deemed more uncertain had lower savings rates. This suggests that there may be an inverse relationship between savings behavior and economic certainty.

If this hypothesis is correct individuals will be more likely to act in a precautionary manner when they are clear about future risks and about whether savings behavior will actually create improvements in future well-being. As discussed above, it has become increasingly difficult to meet either of these criteria.

Socio-demographic Influences on the Allocation of Household Expenditures

While limited research has explored the effects of economic insecurity on consumer behavior, a voluminous body of work has investigated an array of other influences on spending patterns. Much of this literature has been conducted by marketing researchers and is primarily descriptive rather than explanatory in nature. Here I focus primarily on factors that influence households' *allocation* of income and assets toward various spending and saving alternatives. The Consumer Expenditure Survey is the most

common platform for investigating this topic as it provides amounts spent within detailed expenditure categories.

One of the well-documented influences on household spending patterns is family life-cycle. As Schaninger and Danko (1993) explain, the concept of family life-cycle has long been applied to understanding consumer decisions as it captures the effects of life-style, income and expenditure patterns as families transition from one life stage to another (Wells and Gubar, 1966). Family life-stage also helps to explain some of the differences in spending patterns according to income and family size (Ventura and Satorra, 1998). Examples of findings reveal the following patterns: that bachelors spend more money on used furniture, automobiles, restaurant meals and entertainment, while newlyweds are more likely to prepare meals at home but similarly spend money on eating out, entertainment, furniture and autos. Families with children spend more money on home durables and clothing however their spending is often restricted by lower income when one parent reduces their employment. Families with middle-aged children spend less time at home and have higher expenditures on food and snack items, books, music and new household furniture. Families with adult children 'empty nesters' spend money on nonessential durables, recreation and travel, while retired couples and widowed singles reduce consumption and spend on leisure and medical care (Schaninger and Danko, 1993).

Similarly, Chen and Chu (1982) found significant effects in spending patterns according to age of family head, which was used a proxy for life cycle. Chen and Chu (1982) found that aged families spent more on food, household utilities, medical care, personal care and gifts and contributions. However, they spent less of clothing, house

furnishings, automobile purchases and operations, education and recreation. Shelter, household operations and other transportation had mixed findings with respect to age of household head.

Ziol-Guest et al (2006) examined the relationship between family type and the allocation of food expenditures into different food categories using the Consumer Expenditure Survey's diary component. The authors found, somewhat intuitively, that single parents spent more of their 'food dollars' on alcohol and food consumed away from the home, and a smaller proportion on their budget on fruits and vegetables. Single mothers and single fathers differed significantly from each other in almost every food and beverage category. The study also noted that families in which both parents worked spent more of their food budget on food eaten out compared with families in which the mother was not employed (Ziol-Guest et al., 2006).

The use of family life cycle for understanding spending patterns is limited in part by measurement concerns related to the specification of different family stages. Early classifications of family type are too simplified and homogenous to capture the diversity of contemporary family experiences, while more recent 'modern' classifications suffer from a proliferation of family categories and insufficient variation between groups (Schaninger and Danko, 1993; Du and Kamakura, 2006). Du and Kamakura (2006) use an interesting approach to resolve these difficulties. In their study they used the Panel Study of Income Dynamics to identify family types using longitudinal data on 10 family characteristics which results in 13 distinct family types. They then apply the subsequent life cycle categories to analyses using the Consumer Expenditure Survey. Findings were generally intuitive, and similar to those mentioned above including greater use of eating

out, alcohol and tobacco and dry cleaning services among single adults, higher expenditures among families with children on domestic help and reduced purchase of alcohol and food out of the home, and increased use of health care among the elderly (Du and Kamakura, 2006).

The effects of several additional predictor variables on categories of consumption can be found in Paulin's 2001 study on housing tenure and expenditures. Paulin regresses reported expenditures in five categories, food at home, primary housing, health and personal care, transportation and recreation on housing tenure measured as homeowner or renter. The analyses include controls for a variety of demographic characteristics that are highly correlated with homeowner status including age of head of household, size of family, number of earners, race, family type and education. While specific results are too numerous to report here, the authors general finding was that income, age of reference person and family size have the strongest relationship to expenditures regardless of housing tenure. F-statistics indicate that within specific expenditure categories, the effect of demographic characteristics on expenditure amounts were significant for homeowners and renters in all spending categories other than health and personal care (Paulin, 2001).

In research comparable to this project, several studies have looked at how health-care coverage effects spending in non-health categories. This research approaches the effect of health insurance coverage on expenditures from the perspective of how the increasing divestment of health costs by business and government forces families to adjust their allocation of expenditures as health care costs occupy a larger portion of the

family budget. It is worthwhile to make clear that these are not studies of household risk as it relates to health insurance coverage.

Foreseeing the shift of health costs onto workers and families, Paulin and Weber (1995) seek to establish a baseline for assessing how this shift will affect consumer behavior. The authors separate the sample into four categories based on health insurance status: the fully insured, the partially insured, Medicaid recipients and the uninsured. While controlling for income, family size, region, occupation, education level and ethnicity, the authors regress five categories of expenditure (food at home, housing, apparel and services, transportation and recreation) on health insurance status. They found that Medicaid families, followed by the uninsured spend a larger proportion of their budget on food at home than the fully and partially insured. However, the allocation of expenditures to housing and apparel did not differ significantly between these groups. While transportation expenditures were strongly related to income level, the partially insured dedicated the largest share of their budget to transportation. (Paulin and Weber, 1995).

Paulin (1996) conducted a similar study looking only on low-income families (those whose pretax income was below the national poverty line). Families in each health insurance category had similar levels of total expenditure; however the proportion spent on health care varied from 2% for Medicaid families to 9% for premium payers. This difference was compensated for by the relative proportion that each group spent on 'basic goods and services'; 64% among premium payers, 71% for Medicaid and 74% for uninsured households. The authors use income elasticities to measure the percent of an additional dollar an income that the household would spend on a particular group of

goods. These elasticities reveal that premium payers were more likely to increase expenditures on transportation and recreation than were Medicare or Uninsured households (Paulin, 1996).

Conclusion

The literature reviewed in Chapters 2 and 3 provides a historical context for the growth in economic risk in society, as well as the recent changes in social institutions that have individualized that risk and led to growing levels of perceived insecurity. That literature presents different perspectives on how individuals respond to that risk, which are typified by the positive of most Economists who find that individuals behave rationally in response to insecurity and many in Behavioral Psychology who find that insecurity, particularly from multiple sources, often overwhelms individuals' ability to respond functionally.

A Sociological analysis points to the proliferation in sources of risk and the reduced societal support for managing that risk. In that environment, cultural pressures to consume have an inordinate influence on individual and household spending behavior – an influence that is not properly mediated by the risk-aversion tendencies outlined by Economic theory.

In the next few chapters, I test the arguments that I put forth here. For example, Chapter 6 presents descriptive results from an analysis of attitudinal measures of perceived job insecurity. That analysis indicates growth in perceived insecurity when controlling for changes in the unemployment rate. It also suggests, though cannot prove, that respondents' reported levels of perceived insecurity coincide with other attitudinal

characteristics. Though a causal direction cannot be established, this provides evidence for the idea that economic insecurity is associated with respondents' demographic and occupational characteristics, and that perceived insecurity varies alongside related attitudinal measures such as job and financial satisfaction.

The main empirical approach is presented in Chapters 7 and 8. It includes a descriptive and multivariate analysis of expenditure data which uses a multi-level approach to assess the effect of households' occupational characteristics over time. This analysis seeks a partial answer to the question of how individuals' economic insecurity, as measured through the occupational characteristics of their household's primary earner, effect spending behavior. The behavior of particular interest is the degree to which households allocate financial resources to expenditures that are short-term or long-term oriented. If households with riskier occupational characteristics spend a greater proportion of their income on short-term goods, then some support is provided to the argument that greater risk does not, in all cases, lead to more conservative financial behavior. The time measure included in these models assesses whether, as social theory has claimed, the effect of economic risk on behavior has increased over time.

CHAPTER FOUR: DESCRIPTION OF RESEARCH PROJECT

This chapter ties the literature discussed in the previous two chapters to the dissertation project. I outline the conclusions I draw from that body of scholarship and propose two sets of analyses using the Consumer Expenditure Survey and General Social Survey. I then discuss the contributions offered by this project to the existing literature. Finally, I present the hypotheses tested in chapters 6 – 8.

This project is an empirical examination of competing sociological perspectives on how rising levels of economic insecurity impact households' consumption decisions. My goal is to probe and perhaps resolve some of the differences between the expectations of economic rational action models, such as the life cycle theories, and the statements of contemporary social theorists.

I propose that current economic conditions, as interpreted by social theorists and illustrated through aggregate trends, have changed the way individuals orient their financial lives. In the past, consumption served a utilitarian function intended to meet present and future needs; in current times its purpose has changed. Due in part to the instability experienced by individuals in their work and financial lives, the type of long-term decision-making prescribed by economic theory is no longer a viable orientation toward consumer decisions.

With only limited ability to predict future conditions, individuals' efforts to gauge spending against the anticipation of future needs have been disrupted. I question, along with Sennett (1998), whether individuals still have the ability to maintain a long-term focus while surrounded by societal absorption with short-term events and consequences.

As uncertainty strips individuals of their long-term focus they operate unmoored from ‘prudent’ values and priorities. The societal emphasis on the short-term creates a vulnerability to social pressures that encourage increased consumption.

To be sure, these cultural transformations did not occur overnight, but were facilitated and enhanced by economic changes over the whole of the post-WWII period. These changes are outlined in this chapter. Though the pattern of growing risk has developed gradually over the latter 20th century, it has taken on a more potent beginning in the late 1980s and early 1990s. The loss of ‘good’, benefit-carrying jobs, particularly within blue-collar occupations, and the sharp rise in income among those at the upper end of the wealth distribution, has spurred an imbalanced cultural emphasis on material excess. Without the protection afforded by ‘far-sightedness’ – the desire to restrict consumption in consideration of future events - individuals are left vulnerable to the more short-sighted values encouraged in a consumer society.

Following from this argument, I predict that in situations of increased economic insecurity, households’ consumption choices exhibit an increased short-term, risk-seeking financial orientation. In these households, purchases that emphasize present enjoyment will be disproportionately represented over long-term goods and services – that is, those associated with lowered consumption or intended to increase the capital (economic, social, human) of the household.

Contributions to the Literature

This project extends and critiques previous work by economists, consumer researchers and sociologists in several important ways. To date, research on economic

insecurity has focused on outcomes arising from a single source of insecurity, e.g., lack of health care benefits (Gruber and Yelowitz, 1999; Starr-McCluer, 1996;) or job insecurity (Benito, 2005; Conley, 2002; Guiso et al, 1992). While this research contributes to an understanding of the impact of household economic characteristics on a variety of outcomes, it does not succeed in estimating the impact of multiple sources of insecurity on household's decision making. As argued in previous chapters, one of the unique experiences of *contemporary* insecurity is that households face financial risks from multiple sources. It is the proliferation of these sources of insecurity which leads to individual uncertainty about how best to act self-interestedly. One of the central contentions of this project is that the effect of economic insecurity on a household's spending choices is stronger when that household faces multiple sources of risk. I analyze the effect of four measures of occupational insecurity to determine their individual and aggregate effect on household spending behavior. Unfortunately, time constraints prevented the inclusion of measures of health care and retirement insecurity in this analysis. Future research could further explore the effect of multiple risk sources by integrating these additional variables.

A second contribution of this project is its use of the detailed expenditure data provided by the Consumer Expenditure Survey. The majority of prior research on the predictors of household spending has focused either on total annual expenditures or on food expenditures as a proxy for total expenditure. In some cases, this focus is dictated by the limited consumption data available in most datasets, particularly among trend data. Thus previous research is limited by its reliance on less-nuanced consumption measures. For instance, the Panel Study of Income Dynamics has only recently increased its

collection of consumption measures. As a result, food consumption (total food spending) often serves as a proxy for total expenditure; this approach neglects important detail in households' spending patterns.

One exception to this focus on total expenditure is some Consumer Studies research which looks at demographic correlates to spending in a variety of specific categories, though this research is primarily descriptive. Building on this approach, the current project formulates a theory of how households allocate income *between* various expenditure categories.

Finally, this project reconciles economic theories of consumer behavior which predict long-term utility optimization and the contradictory empirical research outlined in Chapter Three. Much economic theory posits that individuals experiencing economic insecurity, due to employment or benefit status, will act in a precautionary manner, primarily by allocating income to savings. However, as summarized earlier, several empirical examinations find that individuals with greater economic risk do not necessarily act in an optimizing manner. The current study provides insight into this discrepancy. By testing whether households with multiple indicators of insecurity (e.g. related to occupation type or sector) exhibit riskier spending behavior, I ascertain whether individuals act in a precautionary manner mainly when the sources of risk they face are clear and limited in number. By examining trends in the growth and distribution of insecurity over time, as well as the changing effect of that insecurity on household consumer behavior, this project provides a framework for revising economic theories of precautionary behavior.

In the next chapter I describe my analytical approach to testing for the presence of a short-term orientation in spending behavior. The analyses involve behavioral and attitudinal components and draw on data from two surveys, the Consumer Expenditure Survey (CEX) and the General Social Survey (GSS). Data from the CEX is used to estimate trends in the effect of economic insecurity on measures of short-term consumer behavior - of increased monetary allocations toward particular categories of goods and services. These behavioral analyses are supplemented by attitudinal measures in the General Social Survey, which help to establish a link between the felt experiences of insecurity and spending behavior. As discussed in Chapter Three, Sociology and Psychology literatures, most notably Thaler and Shefrin (1988) have argued for the role of economic insecurity-generated unpredictability in undermining the ability of individuals to make long-term oriented decisions. The General Social Survey collects attitudinal data that is helpful in testing this thesis. Specifically, I present descriptive findings on patterns of perceived job insecurity over time, as well as how those patterns vary according to respondents' demographic and attitudinal characteristics. Further, the GSS analyses presented in Chapter Six establish the importance of unemployment rates as an influence on perceived insecurity.

Hypotheses

This study addresses a variety of questions related to the behavioral and attitudinal consequences of household economic insecurity. In the following section I state and justify each of the hypotheses tested in Chapters Six through Eight. Hypotheses 1 through 4 correspond to analyses of GSS data in Chapter Six. Specifically they

evaluate trends in perceived insecurity over time (Hypothesis 1), the correlation between the two GSS perceived insecurity measures (Hypothesis 2), the association between perceived insecurity and a variety of demographic and financial attributes of the respondent (Hypotheses 3a – 3f), and the association between perceived job insecurity and other attitudinal features of the respondent (Hypothesis 4).

Hypotheses 5 through 9 correspond to analyses of Consumer Expenditure Survey data in Chapters Seven and Eight. Specifically, they address whether the proportion of total expenditure allocated to short term goods increased between 1981 and 2005 when controlling for other factors (Hypothesis 5), whether the proportion allocated to long-term expenditures decreased during this time period (Hypothesis 6), whether the presence of less secure employment characteristics for the primary earner is associated with increased short-term spending (Hypothesis 7) and reduced long-term spending (Hypothesis 8) over time, and finally, whether the effect of the unemployment rate is a significant predictor, when controlling for other attributes, of households' short-term and long-term spending behavior.

Hypotheses for General Social Survey Analyses

Hypothesis 1: *Individuals' level of perceived job insecurity increased over the time period studied; 1982 – 2005.*

Growth in occupation-based insecurity has resulted in a greater proportion of individuals experiencing insecurity at some point in their lives. As a result of the growth of occupation-based insecurity among groups already vulnerable to employment risk, as well as the expansion of insecurity to include wider segments of the population, it is

anticipated that the mean score for both the aggregate perceived insecurity score and its component, GSS variables will increase over time.

Hypothesis 2: *The two measures of perceived job insecurity found in the GSS will be positively correlated with each other.*

The two measures of perceived job insecurity in the GSS ask the respondent about the likelihood they will lose their job in the next year, and about the amount of difficulty they would experience finding an equivalent replacement position. It is hypothesized that individuals who report high levels of perceived likelihood of job loss will also report high levels of difficulty finding a replacement position. There are several reasons for this connection. First, individuals are more likely to lose their present employment when broader economic conditions in that sector and occupation are difficult. Under those conditions, it will be more difficult for an individual to find a replacement position when positions are scarce, when the labor supply increases. Second, the personal characteristics and qualifications of an individual who perceives themselves as likely to lose their job, would also predispose them to have difficulty obtaining a replacement position. That is, to whatever degree respondents accurately assess their own skills and associated likelihood of job loss, they are also, in effect, accurately predicting likelihood of job replacement.

In contrast, one significant factor that likely *limits* the correlation between likelihood of job loss and difficulty with job replacement is the quality of the jobs for which the individual is eligible. Individuals who perceive their positions as more vulnerable to job loss are likely those in ‘bad’ jobs – part-time, private sector employment in which the employee works ‘at will’. Though positions are often poorly

paid, they may be easier to find in the job market. Conversely, more secure positions provide greater protection from layoffs but are generally more difficult to replace, due to their higher salaries and greater requirements. This effect may reduce or eliminate the positive correlation between these two perceived insecurity measures.

Hypothesis 3: *Respondents' perceived job insecurity is hypothesized to be associated with their financial and demographic characteristics.*

As employees' job insecurity is theorized to be the result of the characteristics of their employment situation, it is expected that reported levels of occupation-based insecurity will vary according to any demographic features that are either the result of or associated with their employment conditions.

Hypothesis 3a: *After controlling for the national unemployment rate, 'middle class' respondents will have increasing levels of perceived insecurity over time.*

When examining respondents classified as 'middle class', it is expected that reported occupation-based insecurity levels will increase during the time period analyzed. As discussed previously, job insecurity expanded to include middle-class occupations during this period, thus the growth in perceived insecurity for this particular group is expected to be sharper than for in the sample in general.

Hypothesis 3b: *After controlling for the national unemployment rate, 'working class' respondents will have increasing levels of perceived insecurity over time, though the rate of increase is expected to be smaller than that of middle-class respondents.*

As mentioned previously, job insecurity is expected to increase across all groups during this period. However, the growth in insecurity among occupations classified as working-

class, is expected to be slower than for middle class occupations that previously had low levels of insecurity.

Hypothesis 3c: *Respondents with occupations classified as managerial or professional (reference group) will have lower though more rapidly growing perceived job insecurity than those with occupations classified as 'working class', between 1982 and 2005.*

Compared to working class respondents, individuals in professional occupations are anticipated to report lower levels of job-based insecurity at each year in the time series. This is a result of the relative employment protection provided by these occupations. However, in keeping with the theories discussed above, it is expected that the level of perceived insecurity will rise more sharply for the professionally employed than for working class respondents.

Hypothesis 3d: *Respondents employed in the government sector will have lower levels of perceived insecurity at the beginning of the time series than those in private sector employment but experience more rapid rates of growth in insecurity leading up to 2005.*

Similar to hypotheses 3b and 3c above, the degree of stability in respondents' occupations is expected to be associated with perceived job insecurity. As a result, individuals in the private sector are expected to have consistently higher levels of job insecurity than those in the government sector, though government sector insecurity is anticipated to rise during this period.

Hypothesis 3e: *Respondents employed in full time occupations are hypothesized to have lower levels of perceived likelihood of job loss at the beginning of the time series than those employed part-time, however the difference between part-time and full-time workers is expected to diminish over time.*

The greater stability associated with full-time employment is expected to translate into lower perceived likelihood of job loss compared with those with part-time, and generally more temporary, employment. However, the greater difficulty of replacing relatively well-compensated full-time positions is expected to result in higher levels of difficulty finding a replacement position relative to part-time workers.

Hypothesis 3f: *Respondents' household income is expected to be negatively associated with perceived employment insecurity. However, differences among income groups are expected to diminish over time.*

The greater degree of employment security present, on average, among higher paying occupations is expected to create lower levels of perceived job insecurity. However, this effect may be mitigated by some perceived difficulties associated with finding scarce, well-paid replacement positions. The effect of income on job insecurity is expected to lessen over time, as individuals in all income categories will report greater, converging job insecurity toward the end of the time series.

Hypothesis 4: *Respondents' attitudinal characteristics are hypothesized to be associated with perceived job insecurity, although the direction of that effect is expected to vary depending on the attitudinal measure analyzed.*

In Chapter Six, the relationship between perceived job insecurity and several attitudinal characteristics is evaluated. These attitudinal characteristics include: job satisfaction, general life satisfaction, financial satisfaction, financial well-being, the respondents' position in their occupational hierarchy, and whether the respondent views social mobility as stemming from personal accomplishment or luck. Although the relationship

between perceived job insecurity and each of these attitudinal variables is likely to vary, in general, greater satisfaction with life circumstances is expected to be associated with lower levels of perceived insecurity.

Hypotheses for Analysis of Consumer Expenditure Survey Data

Hypothesis 5: *The proportion of total expenditure allocated by households to short-term expenditures (e.g., food away from home, entertainment, apparel, personal care, household equipment, and the short-term aggregate category) is expected to increase between 1981 and 2005.*

As discussed previously, the growth in non-standard work arrangements that occurred during the 1980s through 2000s had, as one of its primary outcomes, an increase in occupational insecurity. This increasing job-based insecurity is expected to significantly affect the spending behavior of U.S. households. Specifically, it is expected that, controlling for a variety of demographic and financial characteristics of the household and primary earner, the proportion of total expenditures dedicated to short-term spending will increase during this time period. A positive coefficient for time (year) in the related models will indicate a confirmation of this hypothesis.

Hypothesis 6: *The proportion of total expenditure, allocated by households, to long-term expenditures (food at home, education, utilities and the long-term aggregate category) is expected to decrease between 1981 and 2005.*

Similar to what is expressed in Hypothesis 5, I expect the proportion of total expenditures allocated to long-term spending to fall during the time period analyzed. In the case of

expenditures deemed to be ‘long-term’, I expect a negative relationship between time and proportion allocated to these categories.

Hypothesis 7: *Greater insecurity in the primary earner’s occupational characteristics (occupational type, sector and working time) is hypothesized to have a positive effect on the proportion of total expenditure allocated to short-term expenditures (food away from home, entertainment, apparel, personal care, household equipment and the short-term aggregate category).*

Households facing a greater risk of job loss, particularly for the primary earner, are predicted to adopt a short-term financial orientation. Four occupational characteristics of the primary earner, as well as interactions between those characteristics and time, are included in the regression models analyzed in Chapter Eight. Higher insecurity levels are expected to have a positive effect on short-term spending levels. In addition, the strength of that positive effect is expected to increase during the time period analyzed, indicated by a positive coefficient for the interaction between time and each occupational insecurity measure.

Hypothesis 8: *Greater insecurity in the primary earner’s occupational characteristics (occupational type, sector and working time) will have a negative effect on the proportion of long-term spending (food at home, education, utilities and the long-term aggregate category).*

As with Hypothesis 7, the presence of more a more insecure occupational situation for the primary earner is expected to have a significant effect on household spending patterns. Specifically, households whose primary earner is located in the more insecure group for each of the occupational measures (occupational type, employment sector and weeks and hours worked) are expected to have lower levels of long-term allocation than households with more secure employment conditions. Interactions between time and

measures of employment insecurity are included in the models of long-term allocation. In these models, the coefficient for the interaction between each employment security measure and time is expected to be positive, which would indicate a strengthening of the effect of employment insecurity on long-term spending during the time period analyzed.

Hypothesis 9: *The effect of occupation and the year-specific unemployment rate on allocation to both short-term and long-term expenditures is expected decline over the course of the time series analyzed.*

The national, occupation-specific unemployment rate for each primary earner is included in all regression models. This macro-level indicator of employment insecurity was added to the CEX analyses after results from the General Social Survey analysis in Chapter 6 indicated it to be an important predictor of individuals' perceived insecurity. Although macro-level employment conditions are likely an important predictor of household spending patterns, the strength of that effect is anticipated to go down as the effect of individual-level measures, such as the primary earner's employment characteristics, become more dominant predictors of household expenditure allocation.

Hypothesis 10: *The effect of the primary earner's occupational characteristics (occupational type, sector and working time) on allocation to individual expenditure categories, is expected to strengthen over time.*

Hypotheses 7 and 8 predict an effect of the primary earner's occupational insecurity on allocation to expenditure categories, with more secure households allocating more of their total expenditure to long-term goods, and less to short-term goods. This effect is hypothesized to be present at all points in the time series however, consistent with the literature discussed in Chapter 2, the relationship between insecurity and spending behavior is likely to strengthen during the time series included in this analysis. As a

result, interactions with time that are included in the multivariate models are expected to point to a general strengthening in the effect, either positive or negative, of insecurity on short-term and long-term spending.

CHAPTER FIVE: DATA AND METHODS

This chapter provides a detailed description of the two data sources, the Consumer Expenditure Survey (CEX) and the General Social Survey (GSS), analyzed for the dissertation. I describe the data collection process and the survey and calculated variables included in the analysis, as well as some of the limitations inherent in each dataset. In the following section I detail my approach to the descriptive and multivariate analyses, and specify regression models which measure the effect of job insecurity on spending behavior, net of several socio-demographic characteristics.

This dissertation uses two distinct datasets to examine the relationship between economic insecurity and household consumption. The primary dataset is the Consumer Expenditure Survey (CEX), used to measure consumption behavior in the form of detailed expenditures at the household level. The secondary dataset, the General Social Survey (GSS), collects information on the attitudes and perceptions of the household reference person on topics related to the economic security and financial behavior of the household. Detailed descriptions of each dataset are presented below.

The General Social Survey

The General Social Survey (GSS) is a widely used national survey of Americans' behavior, attitudes and opinions. The survey has been conducted annually since the early-1970s. In most years, the survey collects a variety of information on respondents' attitudes toward their current employment situation. In this project I use two perception-based variables to capture respondents' assessments of their employment insecurity (see

Table 5.1). The first of these is the respondent’s assessment of the likelihood they will lose their job or be laid off within the next 12 months (*JOBLOSE*). Respondents choose among four Likert-type categories reflecting different levels of likelihood. The second measure asks respondents about the ease with which they might find a job with another employer, with approximately the same income and fringe benefits as their current job (*JOBFIND*). Valid responses are ‘very easy’, ‘somewhat easy’, and ‘not at all easy’.

Table 5.1: GSS Analysis Variables

Variable	Definition	Values
GSS Analysis Variables:		
JOBLOSE	Likelihood of job loss	Likely (3) Not too likely (2) Not at all likely (1)
JOBFIND	Likelihood of finding replacement job	Very easy (1) Somewhat easy (2) Not at all easy (3)
Calculated Variable:		
JOBINSECUR	Calculated measure of perceived job insecurity	JOBLOSE*JOBFIND, (range: 1-9)
Control for macro-level economic conditions:		
UNEMP	National, annual unemployment rate	4.0% (2000) – 9.6% (1983)
GSS Covariates:		
Occupation	Respondent’s reported occupation (aggregate categories.	Clerical, service, mechanic/repairer, administrator/manager, teacher and professional (non-teaching)
Sector	Respondent’s employment sector	Government, private, self-employed
Work-time	Respondent’s full-time or part-time work status	Full-time (30+ hours per week) or part-time (less than 30 hours per week)
Unionization	Whether respondent has union status as part of primary occupation	Unionized, not unionized.
Income	Respondent’s personal income, inflated to 2006 dollars for earlier years.	Category 1: < \$26,400 Category 2: \$26,401 - \$39,600 Category 3: \$39,601 - \$52,800 Category 4: > \$52,800
Earners	Number of household earners	One earner, Two or more household earners.
Gender	Gender of respondent	Female, Male
Race	Race of respondent	Nonwhite, White
Rural/Urban	Rural or urban residence of respondent at age 16.	Rural, urban
Job satisfaction	Respondent’s reported satisfaction	Satisfied with job, not satisfied with

	with primary occupation	job
Happiness	Respondent's reported level of overall happiness	Very happy Somewhat happy Not too happy
Financial satisfaction	Respondent's reported	Very satisfied More or less satisfied Not satisfied at all
Financial stability	Respondent's assessment of change in personal financial condition	Getting better Stayed the same Getting worse
Social mobility	Respondent's assessment of the source of social mobility	Hard work Hard work and luck Luck
Occupational hierarchy	Whether respondent as a immediate supervisor or supervisees.	Has supervisor Does not have supervisor Has supervisees (direct reports) Does not have supervisees
TV consumption	Number of hours of television consumed by respondent per day	0 hours 1-2 hours 3-5 hours 6 hours
Newspaper consumption	Whether respondent reads newspaper 2 or more times per week	Reads a newspaper 2 or more times per week Reads a newspaper less than 2 times per week

Perception of future job loss is the most direct available measure of respondent's job insecurity to be found in the GSS. As suggested by the literature on contingent labor, work insecurity takes many forms, including increasingly erratic and demanding work schedules, variation in workload, and lower control over the work environment. However, by far the most powerful indicator of insecure work is the threat of job loss. The variable *JOBLOSE* does not measure the actual likelihood that a particular person will be terminated but instead measures the employee's perception of that likelihood. This perception has a central effect on the individual's consumer and other behavior. In order for consumption behavior to respond to changes in insecurity, this insecurity must be perceptible to household decision makers.

The second analysis variable, *JOBFIND*, completes the measurement of perceived job insecurity by assessing the respondent's vulnerability in the event of occasion job loss. Respondents who perceive a higher likelihood that they will lose their job *and* who believe it difficult to find a similar replacement job, face greater job-based insecurity than those ranked as insecure on only one of these measures. *JOBLOSE* and *JOBFIND* are examined independently and as a combined score, *JBINSECUR*. To combine these variables into a single measure I recode both variables so that higher scores indicate greater insecurity. Values on the two variables are then multiplied to create a final score that ranges from 1-9, with a value of one indicating low likelihood of losing one's job and greater ease in finding another comparative position, and a value of nine indicating the greatest level of employment vulnerability (high likelihood of job loss, and greater difficulty finding a replacement position).

Initially I considered simply adding the two GSS variables to create the perceived job insecurity measure however a core observation of the literature reviewed here, and my contribution to that literature, is the idea that as sources of insecurity increase, the associated pressure on individuals escalates significantly. To allow the central measure (*JBINSECUR*) to most closely reflect the escalating difficulty that results from having both greater concern about job loss and greater perceived difficulty finding a replacement position, I multiply scores on the two GSS variables so that higher values on these two variables will be more accurately represented. To illustrate, if a given respondent answers that they are very likely to lose their current job (a score of 3), but would have an easy time replacing that job (a score of 1) then by the addition method, their resulting score on the *JBINSECUR* measure would be 4, while by the multiplication method it

would actually be lower, a value of 3. By contrast, a respondent with the same score on likelihood of job loss (3), but who also has a high score on the difficulty of finding a replacement position, would receive a 6 by the addition method and a 9 by the multiplication method. As these two cases demonstrate, multiplying scores on these two measures puts greater emphasis on those with high scores on both variables, while reducing the overall score for those with a low score on one of the GSS variables. This exaggeration of the JBINSECUR scale is a more accurate reflection of the growth in stress on individuals that results when they have perceived difficulties in both areas.

The Consumer Expenditure Survey (CEX)

The Consumer Expenditure Survey provides the richest source of data on expenditures for a nationally representative sample of U.S. households. This dataset, collected by the Census Bureau for the Bureau of Labor Statistics (BLS), contains detailed information about American spending habits through the collection of information on quarterly expenditures for a wide variety of both household and personal items. While not utilized in this study, detailed information on the cost of individual products purchased is also collected. In addition, the CEX includes information on household demographic and economic characteristics as well as structural features of the primary dwelling and details of businesses owned by members of the consumer unit.

Unit of Analysis

During data collection, the CEX collects information pertaining to the consumer unit (CU) rather than the more common unit of the household. The consumer unit is

composed of all members of the household who are economically interdependent in that they share at least two out of three of the core expenditures; shelter, food and utilities. As a result a given household may have multiple consumer units. For example, two unrelated roommates who rent an apartment would be considered two separate consumer units. Although they share rent they otherwise operate as separate economic entities. This study retains the consumer unit as the unit of analysis however, I use the terms 'household' and 'consumer unit' interchangeably throughout the text.

Sample

The Consumer Expenditure Survey is a large, nationally representative survey of U.S. households. The survey collects data from individuals residing in college dormitories but does not include institutionalized populations living on military bases, in prisons or in nursing homes. Data collection occurs through a rotating panel design interviewing approximately 5000 households each quarter. Households chosen to participate in the survey are selected through their participation in the Current Population Survey (CPS) also conducted by the U.S. Census Bureau. Each consumer unit is interviewed quarterly for five quarters in order to obtain expenditure information for a full year. Due to a rotating panel design, each quarter one-fifth of the respondents leave the sample, while an equal number of new consumer units are added. In order to obtain a stationary sample I selected all consumer units that were interviewed in the first quarter of 2002 (2002 Q1) as the sample reference point for that year. This resulted in a sample size of 7,691 consumer units for the year of 2002. Working from this 2002 Q1 sample, I then integrate data from the last three quarters of 2001 and the four quarters of 2002 in

order to have four complete quarters of expenditure data for the entire sample. The extraction of data over these seven quarters is necessary because in any given quarter, some households are experiencing their first interview while others are experiencing their second, third or fourth. Among consumer units for which 2001 Q1 was their first interview, it is necessary to look at the following three quarters to gather annualized expenditures. However among consumer units with their fourth interview in 2002 Q1, the last three quarters of 2001 are necessary to annualize expenditure information. Annualization of expenditures is discussed below.

After extraction, the sample was reduced according to two qualifications: first, due to the work-based nature of economic security and the measures used here to capture it, I eliminated consumer units in which both the reference person and spouse were retired, or in which the reference person was retired in single-headed households. Second, consumer units in which neither the reference person nor the spouse had worked in the last 12 months were removed from the sample. This resulted in a final sample size in 2002 of 7,691 consumer units.

Data Collection

The Consumer Expenditure Survey has been collected continuously since 1980, with similar versions dating back to 1960. For the purpose of this project I create a time series dataset by appending six years of CEX data. Those years are: 1981, 1985, 1990, 1995, 2000 and 2005.

The Consumer Expenditure Survey uses two collection instruments; an interview, usually conducted by telephone, and a diary completed by the reference person. The

interview obtains information on household characteristics as well as on the occupational characteristics of the reference person and spouse. Basic demographic information is collected on all members of the consumer unit. Unfortunately, occupational characteristics are not available for unmarried partners of the reference person. Coding of the relationship of the reference person to each member of the consumer unit does not allow determination of whether a member is a romantic partner or some other unrelated adult living in the household. For this reason, individuals who are cohabiting will appear as single in the analysis.

The interview also collects information about two types of expenditures; those occurring regularly (e.g. mortgage, utilities) and those large enough (e.g. furniture, travel, vehicle purchases) to be recalled by the respondent up to three months after the purchase took place. Smaller, more mundane, purchases are recorded in a diary by the respondent for the consumer unit over a two week period. This diary includes all purchases made during that time period including food in and out of the home, service expenditures, gasoline, etc.

The Consumer Expenditure Survey dataset is a relational database that includes 108 data files for each collection year. Data is collected and stored at the consumer unit (CU), individual, and purchase levels with each quarter's data located in a different file. Specialized data files contain separate information on annual purchases of vacation properties, education, medical expenses and recreational vehicles among others. Purchase-level data is organized with each purchase as the unit of analysis and is located in individual, quarter-based files.

Annualization of Expenditures

While expenditure information for each household is collected in quarterly totals, creating annual values for each expenditure category is necessary for three reasons: 1) for ease of interpretation, 2) to correspond with annual income and occupation data and 3) because the majority of expenditures have significant seasonal features and thus spending in any one quarter is non likely to be representative of year round patterns. There are multiple approaches for annualizing quarterly expenditure figures however, there is no single method recommended by the BLS or the data user's group.

The most basic approach to annualizing is to simply multiply values from a single quarter by four to create an annual total. I dismiss this option out of a desire to capture/retain all variation in spending provided in the data. A second solution is to add the four available quarters of expenditures, arriving at an annual figure, and then to eliminate consumer units with missing data in one or more quarters. This solution was also dismissed due to non-random patterns in which households were more likely to provide four quarters of information. Completion of all four quarters of interviews is positively associated with housing tenure and income, and negatively associated with age of head of household (Bureau of Labor Statistics, 2007).

I chose to annualize expenditure figures by retaining quarterly variation while multiplying available data values in cases where some number of quarters is missing. See Table 5.2 for the calculation of these annual values. 'AE' is the annualized expenditure in a given category.

Table 5.2: Calculation of Annualized Expenditures (AE)

Quarters Missing	Calculation
0	$Q1+Q2+Q3+Q4 = AE$
1	$(Q1+Q2+Q3)*1.33 = AE$
2	$(Q1+Q2)*2 = AE$
3	$Q1*4 = AE$

This method maximizes spending variation overall however the amount of variation retained for each consumer unit varies according to the same characteristics (homeownership, income, age) discussed above.

Analysis Variables

Dependent Variables

The interview component of the Consumer Expenditure Survey asks respondents to report the amount spent by the consumer unit in predefined summary expenditure categories during the interview's reference period. Table 5.3 lists the summary expenditure categories included in the interview component.

Table 5.3: CEX Summary Expenditure Categories

Name	Label	Name	Label
Totexp	Total quarterly expenditures	Appar	Apparel and services
Food	Total food expenditure	Etrans	Private transportation outlays
Fdhome	Food at home	Pubtra	Public transportation
Fdaway	Food away from home	Health	Health care expenditures – HLTHINS
Alcbev	Alcoholic beverages	Hlthins	Health insurance
EShelt	Shelter outlays	Feeadm	Fees and Admissions
Mrtint	Mortgage interest	Tvrdio	Televisions, radios, sound equipment
Proptx	Property tax	Otheqp	Other equip. and serv.

			(entertainment)
Mrpins	Maintenance, repairs, insurance, and other expenses	Persca	Personal care
Util	Utilities, fuels, telephone and public services	Reading	Reading
Dmsxcc	Domestic services excluding child care	Educa	Education
Bbyday	Babysitting and child care	Tobacco	Tobacco and smoking supplies
Othhex	Other household expenditures	Misc	Miscellaneous expenditures
Textil	Textiles	Cashco	Cash contributions/donations
Furntr	Furniture	Persins	Personal insurance
Flrevr	Floor coverings	Lifins	Life insurance
Majapp	Major appliances	Retpen	Retirement, pension and SS payments
Smlapp	Small appliances	Ttotal	Total travel expenditures
Misceq	Miscellaneous household equipment		

Note: In two categories, shelter and private transportation, outlays rather than expenditures are used.

The reason for this difference is that expenditures capture the ‘consumption’ of an item based on its costs rather than the amount of money spent from the households budget on that item in the given time period. For most items expenditures and outlays are the same, however for housing and vehicle purchases they may differ. In the case of housing, the expenditure value is the amount paid on the mortgage interest; it does not include the amount paid on principle because it is not considered to be consumption but rather an investment or savings. The outlay for housing includes both the mortgage principal and interest. In the case of vehicle purchases, again the expenditure picks up consumption, so if a household buys a \$20,000 car the consumption or expenditure listed will be \$20,000. However, in most cases the household did not pay the full \$20,000 up front but instead took out a loan on which they might pay \$300 a month. In this case the expenditure for

the quarter would be \$20,000 while the outlay would be \$900. The outlay represents the actual amount of money that left the household during that quarter.

As this study focuses on the allocation of the household budget to different expenditure categories and to savings, I construct proportions using each of these categories rather than simply taking the amount or level of spending in that category. The proportion of spending in each category is calculated as the annualized amount spent in that category divided by total expenditure after health insurance and retirement/pension contributions are removed.

$$P_EXPEND = \text{annualized expenditure} / (TOEXP - (HEALTH_INSURANCE + RETPEN))$$

Health insurance and retirement expenditures are subtracted from household income because these expenditures are expected to vary significantly with the health and retirement insecurity status of the household. By removing the influence of these two categories of expenditures I look at how the household allocated the remaining monies.

Defining Short-term and Long-term Expenditures

The multivariate analyses that are the focus of Chapter 8, utilize a subset of the expenditure categories listed in Table 5.3. Those categories are analyzed in two forms; first, seven CEX expenditure categories were selected from those available in the CEX data. Each category is then recalculated as a percentage of total expenditure (see Chapter 7 for a detailed discussion of the selection and calculation of expenditure variables). As outlined in Hypotheses 5 through 9, each expenditure category is regressed on the independent variables in a separate set of models that begin with a base specification and iteratively adds interactions with time.

Second, I create two summary expenditure categories to measure consumption of short-term or long-term oriented goods and services. The percentage of total expenditure dedicated to spending in short-term and long-term categories, respectively, is then regressed on a set of independent variables (see page 97). The assignment of expenditure categories to headings like ‘short-term’ and ‘long-term’ is, to some degree, a subjective process. One central concern is that virtually all expenditures contain both short-term and long-term motivations; that is, motivation for most purchases is partially need and partially want-driven. For example, the decision to purchase a car has long-term characteristics, the need to get to work and generally conduct life in a socially acceptable manner, and short-term characteristics – the majority of car purchasers spend more than is absolutely necessary to meet these goals. Similar issues exist for most expenditures, and thus the goal must be to determine which types of purchases are contributing primarily to short-term goals rather than long-term ones. To illustrate the application of this standard to the categories present in the CEX, Table 5.4 designates each category as long or short-term oriented.

Table 5.4: Assignment of Expenditures to Short-term and Long-term Groups

Long-term Oriented	Short-term Oriented
Food at home	Food away from home
Shelter	Alcoholic beverages
Mortgage interest	Other household expenditures
Property tax	Domestic services excluding child care
Maintenance, repairs, insurance, other expenses	Textiles
Utilities, fuels, telephone and public services	Furniture
Major appliances	Floor coverings
Babysitting and child care	Small appliances
Public transportation	Miscellaneous household equipment

Education	Apparel and services
	Private transportation outlays
	Fees and Admissions
	Televisions, radios, sound equipment
	Other equip. and services (entertainment)
	Personal care
	Tobacco and smoking supplies
	Total travel expenditures

In this conceptualization, expenditures that are required for basic subsistence or that contribute to the long-term financial stability of the household, are grouped in the left-hand column. Expenditures that are primarily directed toward immediate use for purposes that do not substantially contribute to the long-term wellbeing of the household, are presented in the right-hand column.

For the multivariate analysis presented in Chapter 8, the two summary expenditure categories are calculated from a subset of those presented in Table 5.4. The short-term summary variables that include: food away from home, apparel, entertainment, household equipment and other lodging (travel related lodging). The long-term oriented summary category includes: food at home, shelter, education, health care, personal insurance and life insurance. Further explanation of these assignments is provided at the beginning of Chapter 7.

Independent Variables

Job-based insecurity:

As discussed in the literature, defining and measuring insecure employment is challenging, especially for aspects of employment insecurity that are exclusive of the risks associated with limited or nonexistent health and retirement benefits. It is important to emphasize that insecure work generally, and contingent labor in particular, is

characterized by low predictability, control and job security (Kalleberg, 2000a; 2000b; Polivka, 1989). While the Consumer Expenditure Survey lacks *direct* measures of employment insecurity it collects basic information on the occupational characteristics of the household's reference person and spouse. I use the four available measures of earner's job characteristics to jointly measure job-based insecurity (see Table 5.5). Selection of occupational characteristics was based on a) descriptions of contingent jobs, particularly the work of Kalleberg (2000a; 2000b) and Polivka (1989), and b) data availability in the Consumer Expenditure Survey. The list of included variables, their type and their treatment in the regression models, is displayed in the table below:

Table 5.5: Employment Insecurity Predictor Variables

Component	Values	Type	Model treatment
Occupation	Administrator, manager, professional	Dichotomous	Reference category
	Technical, sales occupations	Dichotomous	
	Service occupations	Dichotomous	
	Farm occupations	Dichotomous	
	Production/repair occupations	Dichotomous	
	Operator occupations	Dichotomous	
Employment sector	Government	Dichotomous	Reference category
	Private sector	Dichotomous	
	Self-employed	Dichotomous	
Hours per week	0-89 hours	Interval	Whole values
Weeks per year	0-52 weeks	Interval	Whole values

The primary earner's occupation is categorized into six groups, as presented in the Table above. Although later years of the survey contained more detailed occupational

categories, the categories present in the analyses below are aggregated to include only those available in the earlier (i.e. 1981 and 1985) years of the survey. The category ‘Administrator, manager and professional’ is the reference category for occupation as it is hypothesized to include the most stable occupations. Employment sector is presented in three categories, government sector, which includes federal, state and local government employees, private sector employees and self-employed individuals. Similar to occupation, the group that is hypothesized to have the most secure employment conditions, government sector employees, serve as the reference group. The last two employment measures are interval variables capturing the number of weeks worked by the primary earner last year and the number of hours worked per week, on average. In each case, the whole (i.e. number of weeks or hours) is included in the descriptive and multivariate analyses.

The effect of each employment measure is examined individually to determine its effect on the dependent variable. The regression models measure the specific effect of occupational categories, education, income and other job characteristics on the household’s allocation of income to short-term spending. Responses to each of these characteristics capture a portion of the variation in perceived employment insecurity.

Control Variables

Several control variables are included in each model of household spending behavior. These variables are intended to limit the effect of those demographic and financial characteristics that are known to have an impact on spending behavior. Each control variable, its type, coding and model treatment are presented in Table 5.6.

Table 5.6: CEX Control Variables

Variable	Values	Type	Model Treatment
After-tax household income (in thousands)	\$0 - \$611,000	Interval	Whole value
Consumer unit size	1, 2, 3, 4, 5, 6+	Interval	
Region	Northeast Midwest South West	Categorical	Reference = Northeast
Rural/urban location	Rural Urban	Dichotomous	Reference = Urban
Race of primary earner	Black White Some other race (American Indian, Aleut or Eskimo, Asian or Pacific Islander)	Dichotomous	Reference = Black
Sex of primary earner	Female Male	Categorical	Reference = Female
Age of primary earner	Integer (2 digit)	Interval	
Educational Attainment	Years, 1 - 22	Interval	
Marital status of primary earner	Married Nonmarried (single, divorced, widowed)	Dichotomous	Reference = Married

Arguably the most important control variable included in the regression models is household income. The CEX has several variables that could be used to measure income, including those that capture individual and household level income. For the purpose of these analyses I select total after-tax household income (*fincatax*), in thousands. This variable captures the total amount of income available to the household for spending and saving. Since a household's total expenditure is constrained by the level of financial resources available to the households in the form of income, existing wealth and available credit (the latter two being strongly correlated with the former), it is expected that households' spending behavior is significantly impacted by household income. The Euler equation states that as households rise in income level they will spend a greater proportion of their income on non-necessities or luxuries. Said another way, poorer

households spend a greater proportion of their budget on necessities like food at home, shelter and apparel than middle and upper income households. This effect is partially mitigated by the formulation of the dependent variable as a proportion of total expenditure however, to more fully account for the effect of income on spending patterns I include total after-tax income as a control variable in each regression equation.

The literature on consumer expenditure patterns discussed in earlier chapters demonstrates the significant effect of family life stage on spending choices. In many of those studies family composition and age of reference person are used to estimate a family's position in the life cycle. To address variation in spending attributable to the household's life stage, a fourth control variable, family size (*fam_size*), is included in each model. The number of consumer unit members as well as the primary earner's age are predicted to have a significant effect on spending patterns in that household.

Finally, I include controls for demographic characteristics such as the race and gender of the primary earner and the rural/urban status of the consumer unit. The following table displays the variable names and valid values for each of the control variables.

Methodological Approach

Analysis of Perceived Insecurity Using General Social Survey Data

Chapter 6 presents analysis of perceived job insecurity using 16 years of cross-sectional data from the General Social Survey (GSS). Changes in the levels of two job insecurity variables – likelihood of job loss and difficulty finding a replacement position – are examined over time. The correlation between these two variables at different time

points is also evaluated. A macro-level measure of economic well-being – the national unemployment rate- is incorporated in the analysis to control for objective differences in employment conditions. The majority of the chapter examines differences in perceived insecurity over time according to a variety of demographic and attitudinal characteristics that are associated with changing occupational conditions among workers. These differences are observed using partial regression plots which provide the predicted level of job insecurity controlling for the unemployment rate. These analyses demonstrate an association between perceived job insecurity and respondents' demographic and occupational characteristics, as well as the degree of correlation between reported levels of job insecurity and broad array of attitudinal indicators.

Descriptive and Bivariate Analysis of the Consumer Expenditure Survey

Chapter 7 presents a descriptive approach to analyzing data from the Consumer Expenditure Survey (CEX). The chapter starts by providing a detailed depiction of the spending behavior of households in the sample. For instance, over time changes in the proportion of total income spent by households is presented, as is the proportion saving in each year. This is followed by an examination of within-household allocation decisions and the mean percent of total expenditure allocated to each category. The chapter then discusses the calculation of the dependent variables and limitations of several alternatives. A justification for the two aggregate expenditure categories, short-term and long-term expenditures, is provided in addition to descriptive examination of the new variables.

The second half of Chapter 7 provides a demographic overview of the sample, presenting descriptive statistics for the occupational measures of insecurity and demographic features of the sample. Finally, the relationship between each of the dependent variables is assessed to determine the degree to which expenditures align according to the short-term and long-term designations given in this project.

Multivariate Analysis of the Consumer Expenditure Survey

Chapter 8 presents results of multivariate analyses modeling the changing effect of earners' job insecurity on household spending behavior between 1980 and 2005. This objective is met utilizing six years of cross-sectional data from the CEX. As discussed previously, the CEX employs a rotating panel design such that each consumer unit is interviewed in five sequential quarters and then is replaced in the sample by a consumer unit with similar demographic features. While the rotating panel design does not allow for the traditional longitudinal analysis common with standard panel data, it can be used for a repeated cross-sectional analysis of the data. As explained by DiPrete and Grusky (1990), repeated cross-sectional data allows the researcher to examine changes in the effect of the independent variables on the dependent variable over time. Since the cross-sectional model assumes a dependent variable with normal distribution I evaluated the shape of each predicted variable in these models. This evaluation revealed significant skewness and truncation of several dependent variables. The censoring of these variables is a 'natural' effect attributable to the fact that households are inherently limited in the amount they allocate to any single expenditure category. To compensate for the skewed distribution of most of the dependent variables, I performed a log transformation of the

effected variables as well as a back-transformation when interpreting the results of the model.

To test the hypotheses outlined in Chapter 4, I use a multi-level model in which characteristics of the consumer unit form the first level of the analysis. The second level of the model constrains the first level parameters to be a function of time. In this second level, the parameters are assumed to have a random component and are estimated as the sum of a constant component, a random component and the effect of time. This is displayed below for β_0 the coefficient of the intercept and β_k , a coefficient of the slope.

$$\beta_{0t} = \tau_0 + \mu_{0t}$$

$$\beta_{1t} = \tau_1 + \mu_{1t}$$

These two-level analyses are conducted in SAS using PROC MIXED. The data are structured with observations for each year stacked vertically within the data set, and include a variable YEAR which designates the time component for the analysis.

Hypotheses 5 – 9 are tested using this multi-level approach. In each case, the corresponding models investigate the combined effect of time and three measures of employment insecurity: occupation type, employment sector and work time (hours per week, weeks per year) on allocation of total expenditures to different categories. The following equation corresponds to Hypothesis 7 and is representative of the repeated cross-section approach.

Hypothesis 7:

$$\begin{aligned} Y_i = & \beta_{0t} + \beta_{1t} \text{ time} + \beta_{2t} \text{ unemp_rate} + \beta_{3t} (\text{time} \times \text{unemp_rate}) + \beta_{4t} \\ & \text{tech_sales_dummy} + \beta_{5t} \text{ service_dummy} + \beta_{6t} \text{ farm_dummy} + \beta_{7t} \\ & \text{prod_repair_dummy} + \beta_{8t} \text{ operator_dummy} + \beta_{9t} (\text{time} \times \text{tech_sales_dummy}) + \\ & \beta_{10t} (\text{time} \times \text{service_dummy}) + \beta_{11t} (\text{farm_dummy} \times \text{time}) + \beta_{12t} \\ & (\text{prod_repair_dummy} \times \text{time}) + \beta_{13t} (\text{operator_dummy} \times \text{time}) + \beta_{14t} \\ & (\text{gov_sector_dummy}) + \beta_{15t} (\text{self_employed_dummy}) + \beta_{16t} (\text{gov_sector} \times \text{time}) + \end{aligned}$$

$$\beta_{17t} (\text{self_employed_dummy} \times \text{time}) = \beta_{18t} \text{hrs_worked} + \beta_{19t} \text{wks_worked} + \beta_{20t} (\text{hrs_worked} \times \text{time}) + \beta_{21t} (\text{wks_worked} \times \text{time}) + \sum \beta_{k+12t} X_{k+12t} + \varepsilon_i$$

In this model, Y_{it} is the proportion of household income allocated to short-term expenditures. The dependent variable is regressed on the predictor variables time, the unemployment rate, three measures of employment insecurity. These five single-order variables serve as controls for interactions between each combination of variables. When interaction terms are positive and significant, they indicate that controlling for first and second level interactions, there is an increase in short-term spending for households with the specified employment characteristics.

Following are the regression models associated with the multivariate hypotheses (5-9) in Chapter 4. Six models were run for each of the nine expenditure category measures. The first, 'base' model for each dependent variable includes covariates for time, the unemployment rate, four measures of employment insecurity and a set of demographic and financial control variables. Models 2 – 5 introduce interactions between time and occupation, employment sector, work time and the unemployment rate, respectively. The final, sixth model includes interactions with all of these measures. These six iterative models are presented to allow evaluation of the interaction between each insecurity measure and time before assessing the cumulative change in the effect of occupational characteristics on spending behavior. The base model serves both as a baseline but also to assess the effect of each occupational measure over the time-series as a whole. In addition to the main and interaction effects in these models, twelve measures of demographic and financial characteristics of the household and primary earner are included in these models. The twelve controls are: household after-tax income, family

size, age, gender, race and marital status of the reference person, and whether the region and urbanicity in which the household is located. To simplify display of these control variables below, they are presented in aggregate form as $\Sigma\beta_{k+1t}X_{k+1t}$ or the sum of the coefficients for $k+12$ independent variables.

Multivariate Models

$$(Model\ 5) \quad Y_i = \beta_{0t} + \beta_{1t} \textit{time} + \beta_{2t} \textit{unemp_rate} + \beta_{3t} \textit{tech_sales_dummy} + \beta_{4t} \textit{service_dummy} + \beta_{5t} \textit{farm_dummy} + \beta_{6t} \textit{prod_repair_dummy} + \beta_{7t} \textit{operator_dummy} + \beta_{8t} (\textit{gov_sector_dummy}) + \beta_{9t} (\textit{self_employed_dummy}) + \beta_{10t} \textit{hrs_worked} + \beta_{11t} \textit{wks_worked} + \Sigma\beta_{k+12t}X_{k+12t} + \varepsilon_i$$

Where Y_i is the proportion of total expenditure allocated alternatively to six short-term oriented categories (food away from home, entertainment, apparel, personal care, household equipment and the short-term aggregate category), $\beta_{1t} \textit{time}$ is the coefficient for year in the time series, $\beta_{2t} \textit{unemp_rate}$ is the coefficient for the national, occupation specific unemployment rate in the respective year, β_{3t} through β_{7t} are the coefficients for occupational dummy variables where administrators/professionals are the reference category, β_{8t} and β_{9t} are coefficients for employment sector dummy variables in which private sector is the reference group, β_{10t} and β_{11t} are the coefficients for interval-level measures of the number of hours and weeks typically worked by the primary earner and $\Sigma\beta_{k+12t}X_{k+12t} + \varepsilon_i$ is the sum of coefficients for a set of twelve control variables.

In these models the coefficient for time is expected to be positive and significant indicating that there was an increase in the amount of total expenditure allocated to short-term oriented categories between 1981 and 2005.

(Model 6)
$$Y_i = \beta_{0t} + \beta_{1t} \text{time} + \beta_{2t} \text{unemp_rate} + \beta_{3t} \text{tech_sales_dummy} + \beta_{4t} \text{service_dummy} + \beta_{5t} \text{farm_dummy} + \beta_{6t} \text{prod_repair_dummy} + \beta_{7t} \text{operator_dummy} + \beta_{8t} (\text{gov_sector_dummy}) + \beta_{9t} (\text{self_employed_dummy}) + \beta_{10t} \text{hrs_worked} + \beta_{11t} \text{wks_worked} + \Sigma \beta_{k+12t} X_{k+12t} + \epsilon_i$$

The model specification here is identical to Model 5 except that the dependent variables (referenced here as: Y_i) are four measures of long-term oriented spending: the proportion of total expenditure allocated to food at home, education, utilities and an aggregation of long-term oriented categories (described previously). In accordance with Hypothesis 6, the coefficient for time is anticipated to be negative and significant indicating that there was a decline in allocation to long-term expenditures between 1981 and 2005.

(Model 7)
$$Y_i = \beta_{0t} + \beta_{1t} \text{time} + \beta_{2t} \text{unemp_rate} + \beta_{3t} (\text{time} \times \text{unemp_rate}) + \beta_{4t} \text{tech_sales_dummy} + \beta_{5t} \text{service_dummy} + \beta_{6t} \text{farm_dummy} + \beta_{7t} \text{prod_repair_dummy} + \beta_{8t} \text{operator_dummy} + \beta_{9t} (\text{time} \times \text{tech_sales_dummy}) + \beta_{10t} (\text{time} \times \text{service_dummy}) + \beta_{11t} (\text{farm_dummy} \times \text{time}) + \beta_{12t} (\text{prod_repair_dummy} \times \text{time}) + \beta_{13t} (\text{operator_dummy} \times \text{time}) + \beta_{14t} (\text{gov_sector_dummy}) + \beta_{15t} (\text{self_employed_dummy}) + \beta_{16t} (\text{gov_sector} \times \text{time}) + \beta_{17t} (\text{self_employed_dummy} \times \text{time}) + \beta_{18t} \text{hrs_worked} + \beta_{19t} \text{wks_worked} + \beta_{20t} (\text{hrs_worked} \times \text{time}) + \beta_{21t} (\text{wks_worked} \times \text{time}) + \Sigma \beta_{k+12t} X_{k+12t} + \epsilon_i$$

This model contains the variables listed in Model 5 but incorporates interactions between occupational insecurity measures and time. In Model 7, β_{9t} through β_{13t} are coefficients for interactions between time and each of the five occupation measures. β_{16t} and β_{17t} are coefficients for interactions between time and employment sector measures. β_{20t} and β_{21t} are coefficients for interactions between time and two measures of work time. In this model, Y_i is the proportion of total expenditure allocated to six measures of

short-term oriented spending: food away from home, entertainment, apparel, personal care, household equipment and the short-term aggregate category. In accordance with hypothesis 7, the coefficients for the main effect of each occupation type dummy variable is expected to be positive indicating the presence of higher allocation to short-term oriented expenditures among the less secure occupations relative to the reference group – administrators and professionals. The coefficient for the main effect of employment sector, government sector and self-employed, are expected to be significant and negative indicating that public sector and self-employed earners allocate less to short-term expenditures when controlling for other factors. The coefficients for working time, hours worked per week and weeks worked per year, are expected to be significant and negative such that earner's with higher amounts of work time allocate less of their expenditures to short-term goods and services than those with part-time or erratic schedules.

Regarding the measurement of over-time effects in the model, the interactions between occupational insecurity measures and time assess whether the effect of the primary earner's occupational characteristics changed between 1980 and 2005. The interactions between each of the occupational insecurity measures and time are expected to be significant and positive indicating that difference in occupational insecurity had a stronger impact on allocation to short-term expenditures in later years of the time series.

(Model 8)

$$\begin{aligned}
 Y_i = & \beta_{0t} + \beta_{1t} \text{time} + \beta_{2t} \text{unemp_rate} + \beta_{3t} (\text{time} \times \text{unemp_rate}) + \beta_{4t} \\
 & \text{tech_sales_dummy} + \beta_{5t} \text{service_dummy} + \beta_{6t} \text{farm_dummy} + \beta_{7t} \\
 & \text{prod_repair_dummy} + \beta_{8t} \text{operator_dummy} + \beta_{9t} (\text{time} \times \\
 & \text{tech_sales_dummy}) + \beta_{10t} (\text{time} \times \text{service_dummy}) + \beta_{11t} (\text{farm_dummy} \times \\
 & \text{time}) + \beta_{12t} (\text{prod_repair_dummy} \times \text{time}) + \beta_{13t} (\text{operator_dummy} \times \text{time}) \\
 & + \beta_{14t} (\text{gov_sector_dummy}) + \beta_{15t} (\text{self_employed_dummy}) + \beta_{16t} \\
 & (\text{gov_sector} \times \text{time}) + \beta_{17t} (\text{self_employed_dummy} \times \text{time}) = \beta_{18t}
 \end{aligned}$$

$$hrs_worked + \beta_{19t} wks_worked + \beta_{20t} (hrs_worked \times time) + \beta_{21t} (wks_worked \times time) + \sum \beta_{k+12t} X_{k+12t} + \epsilon_i$$

Model specification for hypothesis 8 is identical to hypothesis 7 except that the dependent variables (represented as Y_i) are four measures of long-term oriented spending; the proportion of total expenditure allocated to food eaten at home, education, utilities and an aggregate category of long-term expenditures. In the models represented under Model 8, the main effect for each occupational dummy variable is expected to be significant and negative demonstrating that households of primary earners in less secure occupations allocate a smaller proportion of their expenditures to long-term oriented goods and services. The main effects for government sector and self-employment are expected to be significant and positive indicating that primary earner's in those sectors allocate more to long-term oriented expenditures than households of earners in the private sector. The effect of working time on long-term expenditures is expected to be significant and positive indicating that employees with full-time, year-round work schedules allocate more to long-term expenditures.

The coefficients for interactions between time and each of the occupational insecurity measures are expected to be positive and significant in accordance with the hypothesis that the effect of occupational characteristics has increased over time.

Hypothesis 9: *The effect of occupation and year-specific unemployment rates is expected to be significant in models of both short-term and long-term expenditures.*

(Model 9) $Y_i = \beta_{0t} + \beta_{1t} time + \beta_{2t} unemp_rate + \beta_{3t} unemp_rate \beta_{3t} \times time) + \beta_{4t} tech_sales_dummy + \beta_{5t} service_dummy + \beta_{6t} farm_dummy) + \beta_{7t} prod_repair_dummy + \beta_{8t} operator_dummy + \beta_{9t} (gov_sector_dummy) +$

$$\beta_{10t} (self_employed_dummy) + \beta_{11t} hrs_worked + \beta_{12t} wks_worked + \sum \beta_{k+12t} X_{k+12t} + \varepsilon_i$$

In each version of model 9, Y_i is one of the nine expenditure categories evaluated by this project. Model 9 focuses on the changing effect of the unemployment rate over time on the proportion of total expenditure allocated to each expenditure category. In these models, the variable *unemp_rate* is the national unemployment rate for the occupational category of the primary earner in the survey year. The coefficient for this variable is expected to be significant and negative in models of short-term expenditure and positive in models of long-term expenditure due to the influence of societal-level employment information on perceived insecurity. The direction and magnitude of the coefficient for the interaction between the unemployment rate and time is not hypothesized as this part of the analysis is largely exploratory. Occupational and demographic characteristics of the primary earner are included in this model as controls for household-level variation, and to allow for examination of differences in the effect of occupational insecurity in the context of the changing effect of the unemployment rate.

CHAPTER SIX: EXAMINATION OF JOB-BASED INSECURITY FROM 1982 – 2006

This chapter presents the results of analyses of General Social Survey (GSS) data on individuals' perceived job insecurity. It begins by reviewing the hypothesized role of perceived economic insecurity in households' spending decisions and then moving on to discuss the related data available in the GSS and provide univariate and bivariate analysis of their patterns over time. After discussing the importance of the national unemployment rate to economic insecurity, this chapter presents and analyses partial regression plots of the average score on each variable, controlling for the unemployment rate. Finally, I illustrate how perceived insecurity varies according to respondents' demographic and attitudinal characteristics.

The focus of this dissertation is an examination of one mechanism through which late capitalism shapes U.S. household consumption behavior. As detailed in earlier chapters, theory and empirical research in psychology and behavioral economics suggest that the current economic environment has increased the sources of uncertainty and insecurity, compromising individuals' ability to identify and act in accordance with their long-term financial well-being. Integral to this hypothesis is the premise that as U.S. society transitions from classic- to post-industrialism, it has undergone structural transformations that reduce individuals' perceived security, particularly in the areas of finance and work. Primary among these transformations are job-destabilization and the individualization of risk. It is then expected that transition to late-capitalism induces an increase in employment-based insecurity. This is, one of the primary observations of several social scientists: the 1980s and 1990s has been a time of change in subjective job

insecurity, not only the severity but also the breadth of insecurity has grown, as research demonstrates an expansion of insecurity from the lower and working classes, who have historically insecure work conditions, to the middle class.

The literature on work insecurity leads to three concepts related to changes in insecurity over the last three decades: 1) the subjective experience of insecurity has strengthened for many groups of Americans, 2) this insecurity derives from increasingly varied sources of risk, and 3) the segment of the population experiencing chronic insecurity has diversified. This project evaluates the structural mechanisms, specified by theorists, which mediate between the capitalist economic environment and individuals' consumption behavior. To more concretely understand changes in economic insecurity during this period of transformation to late-capitalism, this chapter analyses perceived job-based insecurity over a 25 year time period (1982-2006). Specifically, it examines levels of insecurity over time, its prevalence across economic classes, and differences in the level of perceived insecurity according to several demographic, employment and attitudinal characteristics.

General Social Survey Data

Although the Consumer Expenditure Survey, explored in Chapters 7 and 8, provides superior data on the consumption behavior of U.S. households, it collects limited information on household members' employment characteristics. This includes a lack of direct measures of the security of respondents' employment conditions. In order to supplement my analysis of the CEX, this chapter utilizes data on perceived job insecurity from the General Social Survey (GSS). The GSS is a survey of the non-

institutionalized U.S. adult population that collects individual-level attitudinal data on a variety of economic, political and cultural subjects. The GSS was administered annually during the 1980s and biennially since 1996.

From 1982 - 2006, the GSS included two questions about the perceived security of respondents' primary occupation. The first question asks respondents how likely it is that they will involuntarily lose their job during the next 12 months. Response categories provided were 'Very Likely', 'Not Too Likely' and 'Not At All Likely'. This question queries respondents about the stability of their current employment. In assessing their relative job security, it is reasonable to expect that respondents may consider a variety of factors including the solvency of their employer and any history of layoffs at that company, the contingency of their employment arrangements (permanent versus temporary or contract status), and the valuation of their skill set by the company. The second question asks respondents to rate their perceived level of difficulty finding a replacement position with similar salary and benefits. Three response categories were provided: 'Very Easy', 'Somewhat Easy' and 'Not Easy'. In responding to this second question, respondents are asked to consider potential future conditions, including the job market for their occupation, the competitiveness of their compensation within that occupational structure, and their skill set relative to others who may be competing for similar positions.

Responses to these two questions were used to measure respondents' *perceived* job insecurity. Taken together, these variables create a particularly strong measure of this subjective state. Perceived likelihood of job loss (question 1) captures feelings about the security of the respondent's present position, and is bolstered by question 2, which

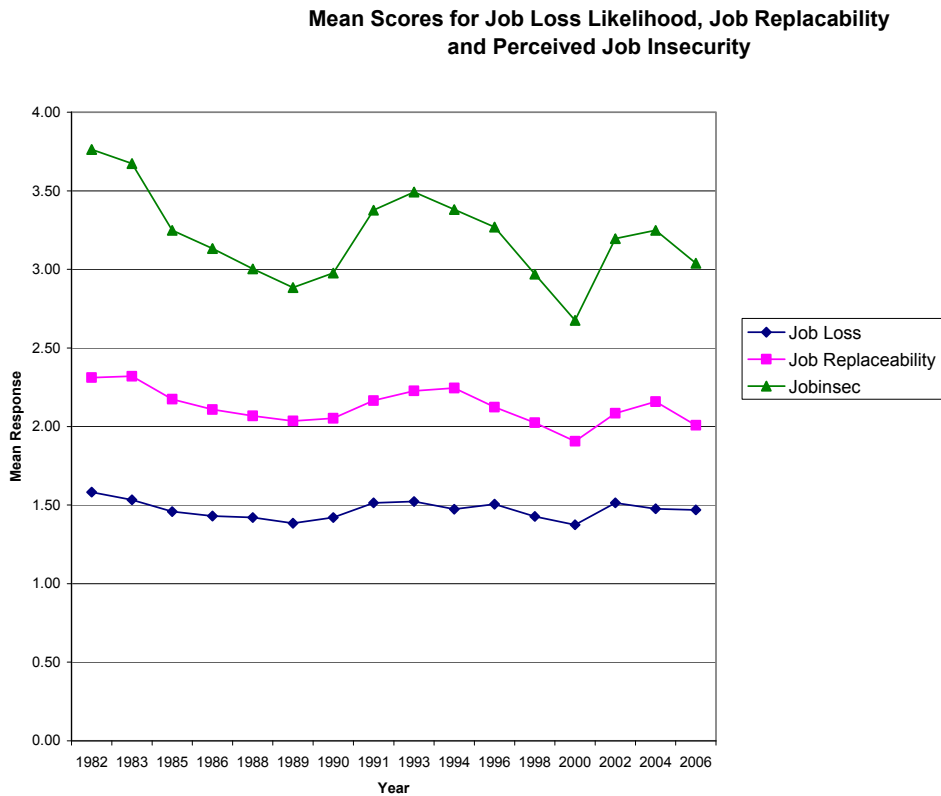
reflects the *risk* that a given respondent associates with the loss of their current position. When securing a comparable job is difficult, the disruptive nature of that loss is magnified. In other words, two respondents who rate their likelihood of job loss as ‘somewhat likely’ may occupy differing levels of insecurity if one perceives greater risk associated with such a loss. Individuals who perceive difficulty securing comparable employment are exposed to greater risk than those with replaceable employment arrangements.

To measure respondents’ overall job insecurity, responses to the job loss and job replaceability questions are multiplied creating an index of job insecurity ranging from 1 – 9. Responses are multiplied rather than summed to emphasize the contribution of potential risk at each level of job loss likelihood. Respondents’ scores on this index are compared over time and across occupational and demographic categories.

Introductory Analysis of Trends in Perceived Job Insecurity

Figure 1 depicts the mean levels of the index measure perceived job insecurity (JOBINSEC) and its two GSS components, job loss likelihood and job replaceability, over the 25 year period from 1982-2006. As noted above, both likelihood of job loss (JOBLOSE) and difficulty securing a replacement job (JOBFIND) were coded from 1 to 3 with higher values indicating greater insecurity. The combined index, job insecurity, ranges from 1 to 9 with 9 indicating the greatest level of insecurity.

Figure 6.1

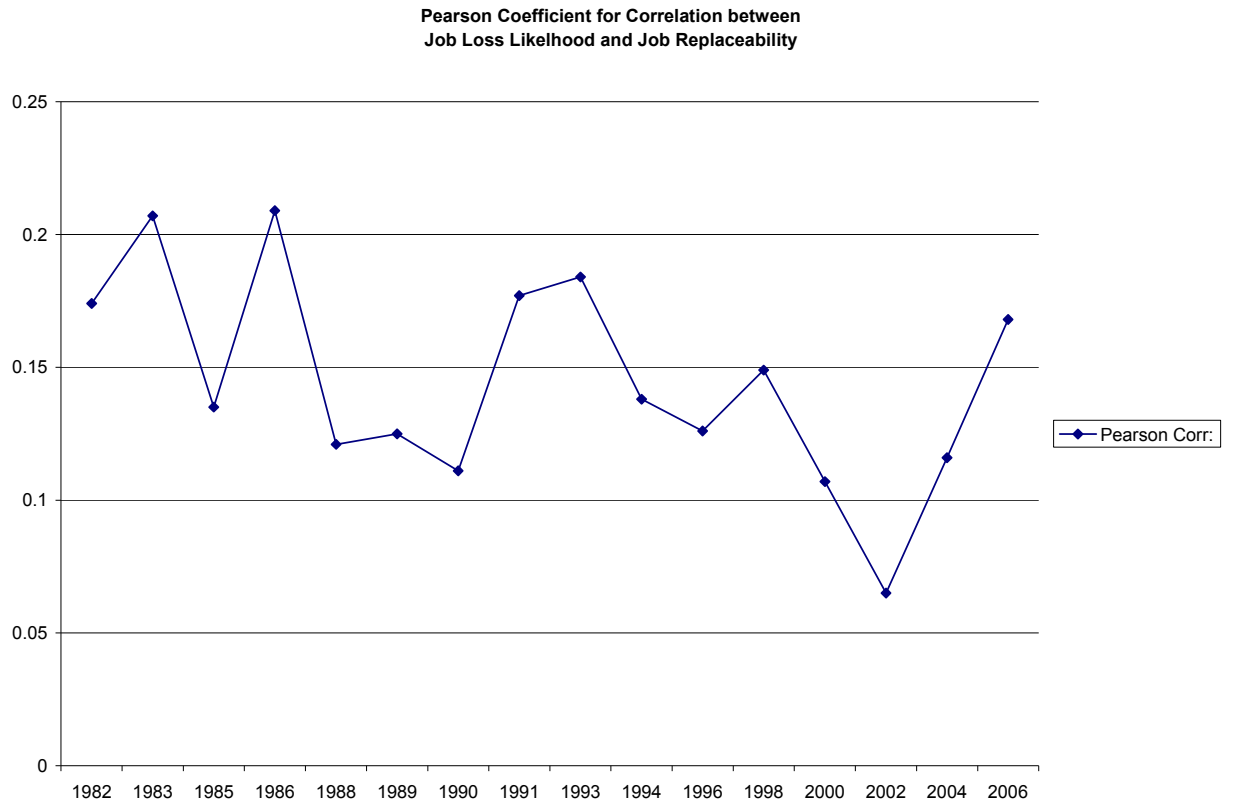


As Figure 6.1 indicates, levels of perceived job loss likelihood and difficulty of job replacement are relatively stable over this period. On average, respondents indicated greater concern about finding a replacement job than about losing their current one. At the beginning of the series (1982), the mean response for job replaceability was 2.31, falling to 2.01 by 2006. The trend line indicates a small decline in job replacement difficulty during the mid to late 1980s followed by an increase during the 1990s and again from 2002-2006. The trend line for likelihood of job loss showed less variation during this period, with a similar, though less pronounced, decrease during the late 1980s followed by two periods of increasing job vulnerability. Mean job loss likelihood ranged from 1.58 in 1982 to 1.47 in 2006, with a low point of 1.41 in 2000. The indexed measure, perceived job insecurity, accentuates these patterns. The trend line for job

insecurity shows an initial decline in perceived job insecurity from 1982 through 1990 followed by two periods of sharp increase. For all three measures, the year 2000 is notable for sudden, brief decline in job insecurity. This may be a result of the technology boom at the end of the 1990s and the relative strength of the job market at that time.

The degree to which the likelihood of job loss and job replaceability coheres is assessed through Pearson's correlation coefficient, displayed in Figure 2. The coefficient ranged from .2 to .065 with substantial volatility in this downward trend. Notably, the correlation over time varied similarly to the mean level of job insecurity. The correlation falls to approximately .12 between 1987 and 1990, rising in the early 1990s before experiencing another decline. This suggests that during periods of relative job insecurity there is greater similarity in respondents' perceptions of their likelihood of job loss and the replaceability of their jobs. In times of relative job security, responses to these measures differ more substantially.

Figure 6.2



Change in the correlation between these measures is attributable primarily to variation in perceived job replaceability. Figures 3a and 3b depict greater volatility over time in respondents' assessment of job replaceability than in their assessment of the likelihood of job loss. Figure 3a shows the percentage of responses in each of three response categories. Responses are consistent across the time series with 'Not at all likely' the most frequent response in all years. In contrast, responses to the job replaceability question were more inconsistent, as illustrated in Figure 3b. The percent of respondents reporting that securing a replacement position would be 'very easy' varied from 19 – 38%, while those indicating substantial difficulty ('Not at all easy') varied from 28 – 52%.

Figure 6.3a

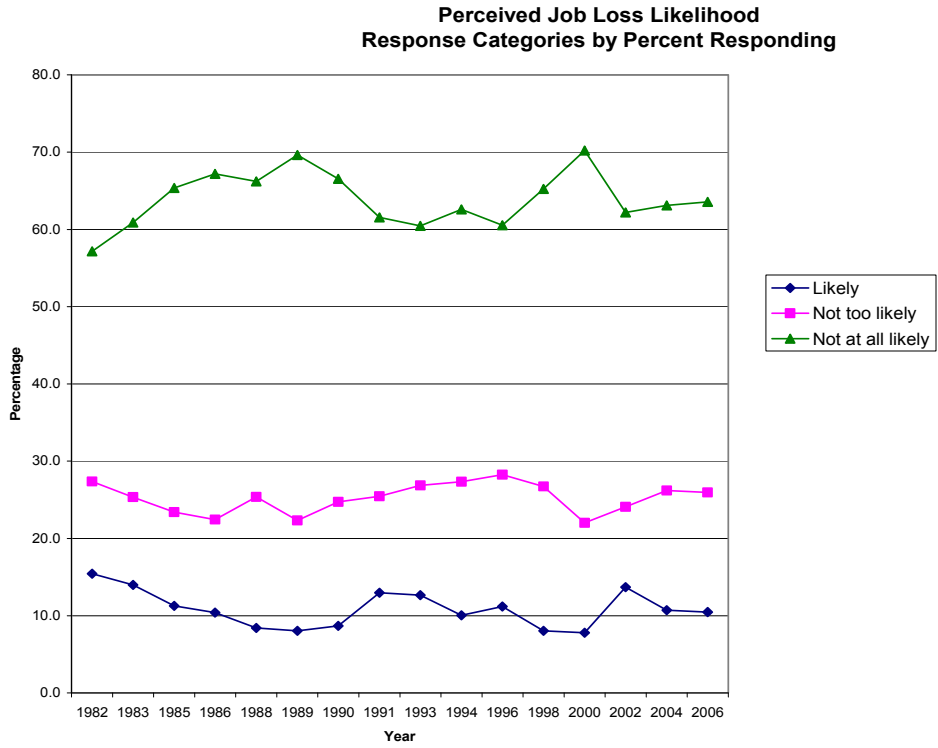
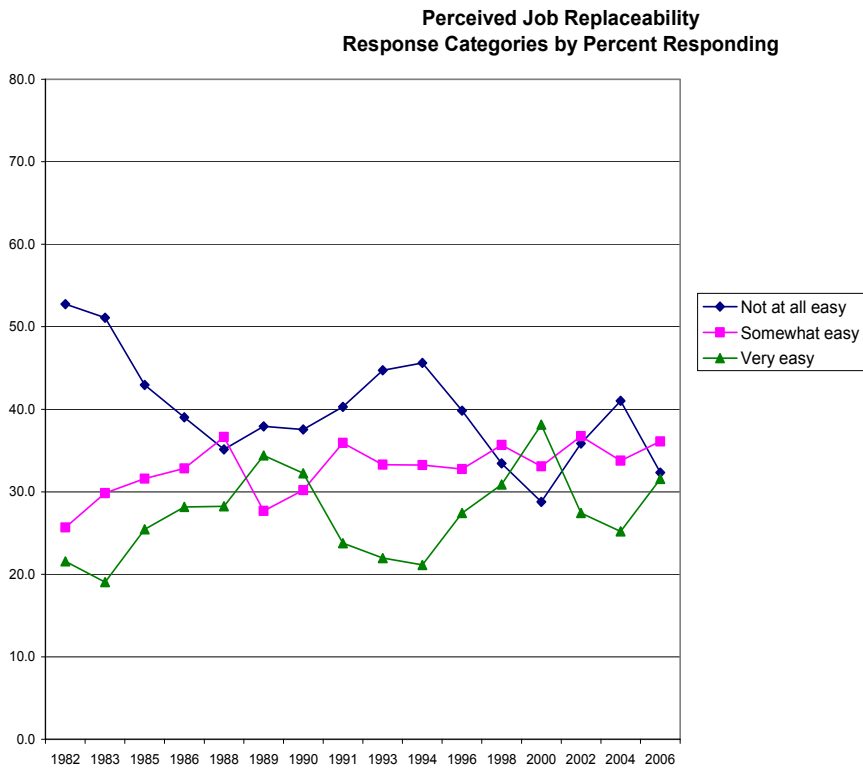


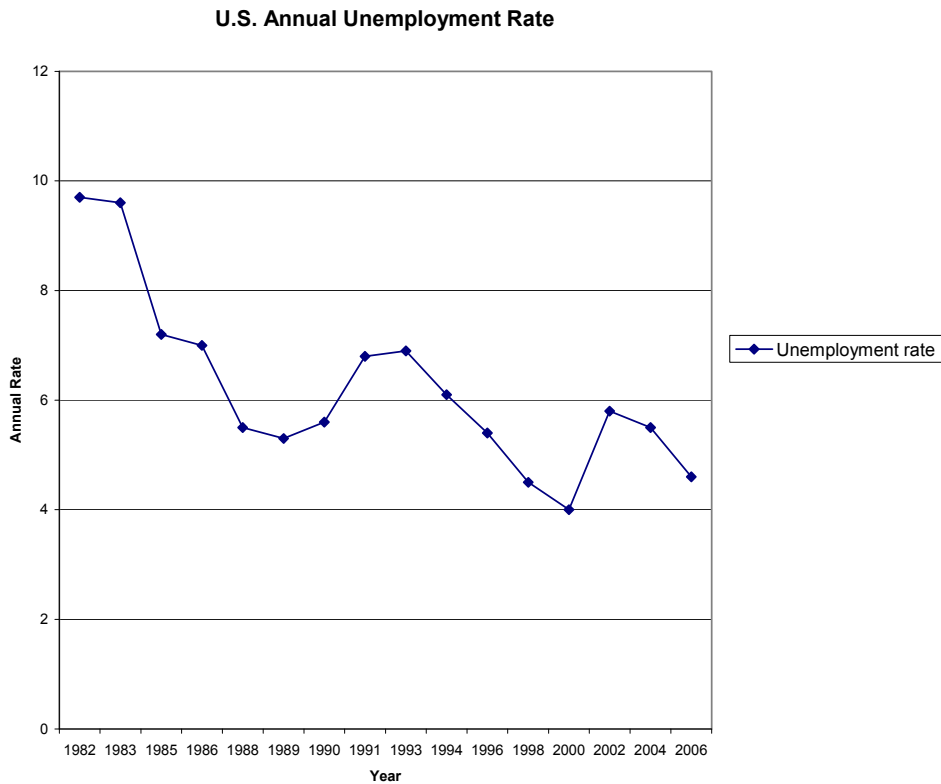
Figure 6.3b



These initial results confirm the conclusions of Green's (2003) examination of perceived job insecurity in the U.S., U.K. and Germany. The study's bivariate analysis concluded that perceived insecurity declined during the late 1980s and 1990s. Green's findings contradict assumptions throughout the sociology of work and theories of late capitalism that job-based insecurity has increased commensurate with the growth of late capitalism. This contradictory trend may be better understood by considering contemporaneous macro-level changes. In addition to the effect of employment conditions on perceived insecurity, individual perceptions are affected by macro-level conditions. As discussed in earlier chapters, the 1980s and 1990s were a period of substantial change in the U.S. employment structure, particularly growth in the service sector economy and contingent workforce. An associated benefit of these changes was a reduction in unemployment but growth in underemployment. During periods of higher unemployment, respondents may report a greater subjective sense of insecurity due to media coverage of joblessness and employment markets or through observation of increasing unemployment among colleagues and friends. For these reasons, unemployment levels are expected to be positively correlated with perceived job insecurity.

Figure 6.4 graphs the U.S. annual unemployment rate over time. As this graph illustrates, the official unemployment rate dropped markedly during the early 1980s. This drop in the annual unemployment rate is expected to affect individuals' perceived job insecurity.

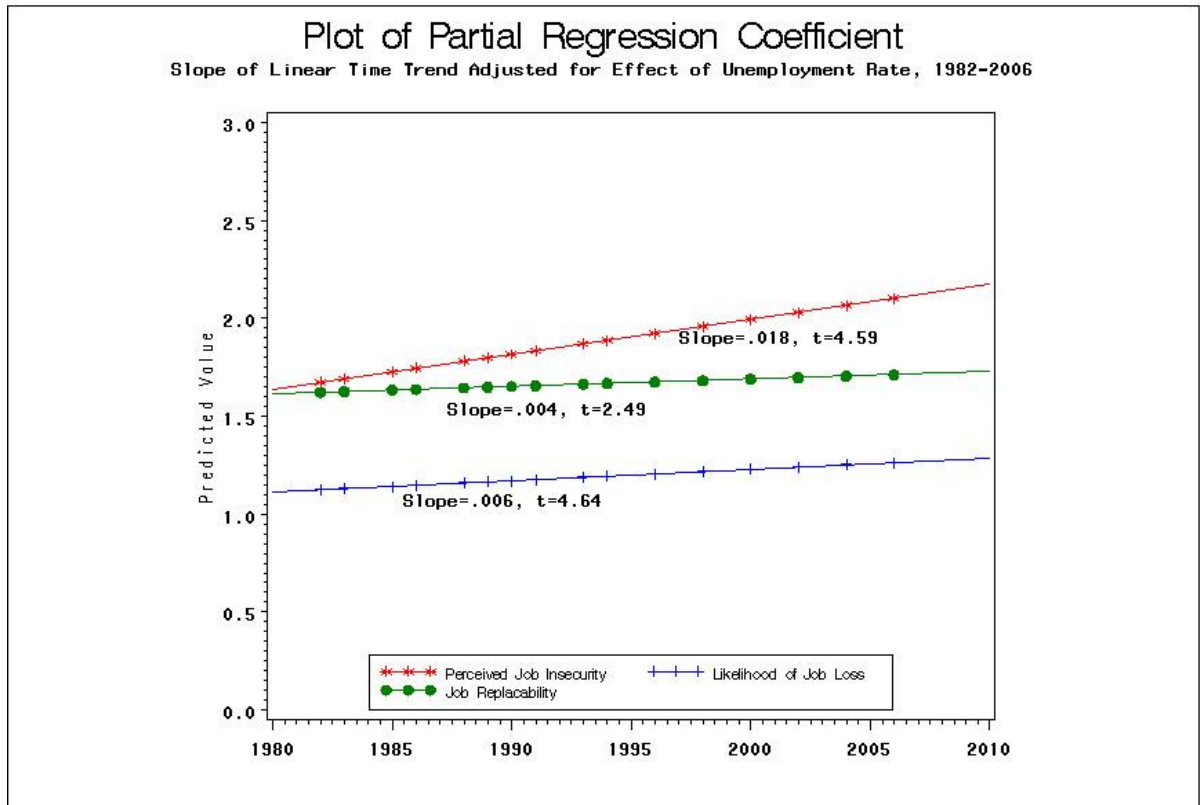
Figure 6.4



To examine the trend in perceived insecurity while controlling for the influence of the annual unemployment rate, perceived insecurity (JOBINSEC) was regressed on time (year – 1982) and the annual unemployment rate. Using the intercept and slope from this model, I calculate predicted values for each time point resulting. Figure 6.5 is a partial regression plot which presents the predicted values for the perceived job insecurity measure as well as its two components (perceived likelihood of job loss and perceived job replaceability) after controlling for the annual unemployment rate. For each measure, the slope of the line is indicated as well as the test statistic for that slope. Additional testing that was performed for the assumption of independence of errors due to heterogeneity of survey respondents between years. This testing found that the standard errors calculated by the partial regression models are too small by a factor of 1.2. As a

result, the test-statistics presented in each partial regression plot are inflated by that factor. When reviewing test statistics in each plot, deflate the value presented by a factor of 1.2 to interpret a more conservative measure of the significance of the respective slope.

Figure 6.5⁵



Note: the test-statistics presented in this figure are overinflated. For interpretation purposes, deflate the value of the test-statistic by a factor of 1.2.

Notably, after purging the effect of the annual unemployment rate from the insecurity time trend, the slope for time becomes positive. That is, the predicted value of job insecurity increases between 1982 and 2006 after accounting for the effect of unemployment levels. Net of the macro-level context of decreasing unemployment,

⁵ The partial regression plots featured in Chapter 6 capture the predicted level of job insecurity after controlling for annual unemployment rate for each collection year. The predicted value at each time point is calculated as follows: $\beta_1 + \beta_2(\text{year} - 1982)$.

respondents reported increasing levels of job insecurity, especially likelihood of job loss, over the last two decades.

This finding is an important modification to the pattern of job insecurity growth described by the literature on late-capitalism. Although the literature argues that job insecurity has increased during the transition to late-capitalism, this trend is not evident in the data on perceived job insecurity until levels of unemployment are taken into account. Thus, controlling for macro-level employment context, individuals have experienced increasing levels of perceived job insecurity over the last 25 years.

Given its strong, directional effect on the job insecurity time trend, the annual unemployment rate is included as a control in the remaining analyses in this chapter. Variation in levels of job insecurity is evaluated in plots that compare the predicted values for job insecurity from the partial regression models described above, for subsamples of the GSS sample according to respondent characteristics. Each of the partial regression plots presented in this chapter is followed by the results of significance tests of the difference between slopes to determine whether levels of perceived job insecurity are significantly different for the groups presented, after controlling for the unemployment rate. The significance tests are calculated using the deflated test-statistics described above.

The next section examines levels of job insecurity for middle and working class respondents separately in response to theoretical assertions that recent growth in job insecurity has been particularly heightened among middle class households. Then, in later sections, I compare levels and change in job insecurity by occupation, employment sector, unionization status and income. The end of Chapter Six compares several related

attitudinal measures collected by the GSS, including respondents' financial and overall life satisfaction, their position in the occupational hierarchy, and their exposure to media.

It is worth emphasizing that each of these analyses is intended to elucidate how perceived job insecurity varies according to levels of the occupational or demographic characteristic. Many of these characteristics are likely interrelated phenomena and thus variation observed within one, may be caused by or co-vary according to levels of another. As this analysis is descriptive, the intention is not to attribute a causal relationship between variation in respondent or household characteristic and that respondent's level of perceived job insecurity.

Job Insecurity Trends among the Middle Class

One of the interesting features of growing economic insecurity, according to the theoretical and empirical literature on work on late-capitalism, is the idea that insecurity has not merely been amplified but has also spread to new sectors of society; including the middle classes who have historically enjoyed substantial job security. To determine whether job insecurity has expanded to the middle class, this section examines the perceived job insecurity time trend among a middle class sample defined below. Of interest is the degree of similarity between predicted values for the middle class sample and those for the full, cross-class sample discussed above.

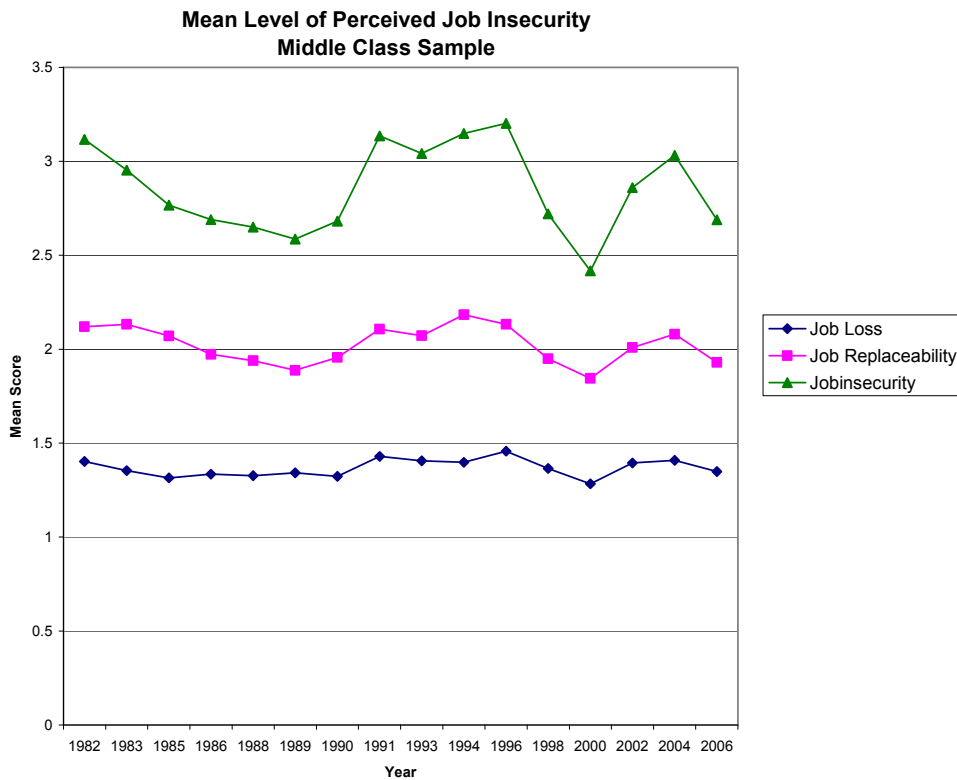
For this part of the analysis, the sample was limited to middle class respondents as defined through education and occupational characteristics. As noted in Adelman (2001), definitions of middle class status vary substantially throughout the literature with occupation, education and income serving as the most common delimiters. Income was

removed from class definition in this analysis due to data limitations. Both the respondent and household income variables in the GSS have high levels of missing values which result in a small middle class sample size when combined with education and occupation criteria.

The education criterion for inclusion in the middle class was at least some college (13+ years of education). The occupation criterion for inclusion in the middle class was presence of a 'white collar' occupation. Occupational categories included were: administrators/managers, teachers, professionals, business sales and technical jobs. The occupational categories classified as working class included retail sales, clerical/administrative, protective services, domestic service, non-specified service, machine operators, transportation operators, handlers/laborers, mechanic/repairers, construction/mining, farming/agriculture and forestry/fishing. Respondents were included in the subsample if they met both education and occupational criteria. The resulting sample size was 4,816 respondents from an original 16-year sample size of 14,324.

Figure 6.6 displays the mean scores for the middle class subsample on perceived job insecurity, likelihood of job loss, and job replaceability.

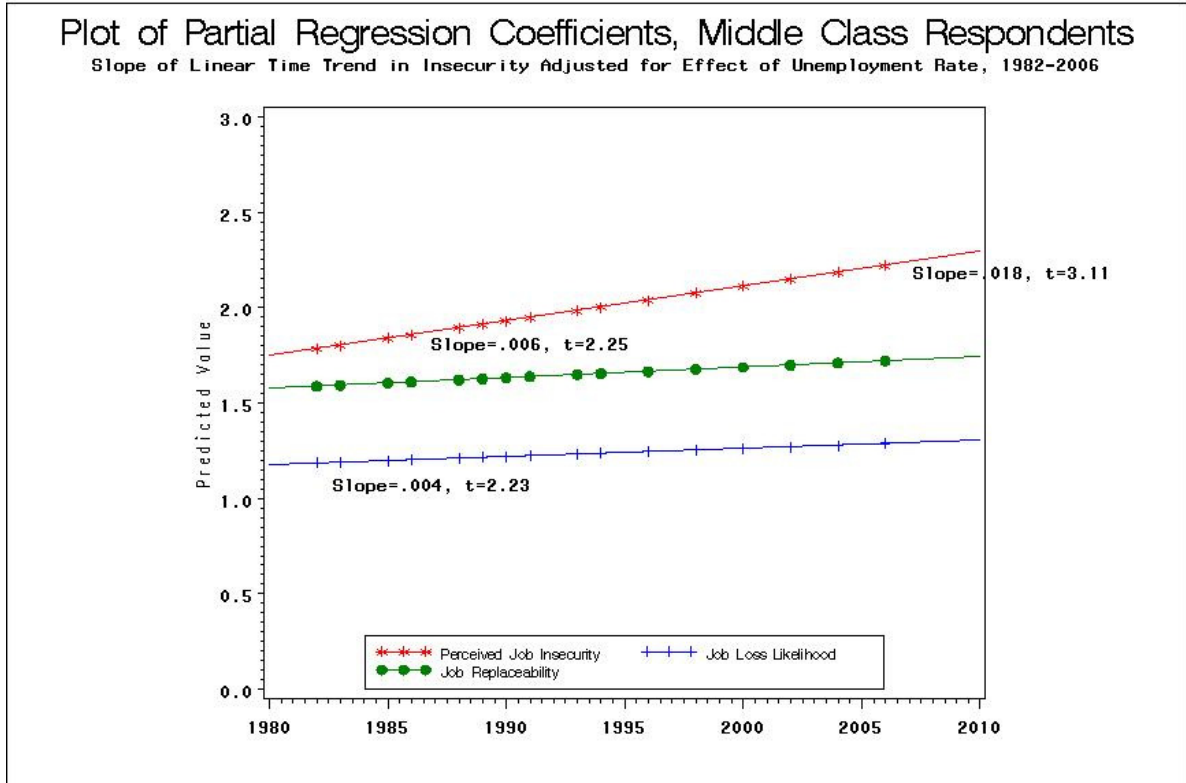
Figure 6.6



Note: the test-statistics presented in this figure are overinflated. For interpretation purposes, deflate the value of the test-statistic by a factor of 1.2.

As expected, the middle class had modestly lower levels of perceived job insecurity, job loss likelihood, and difficulty with job replacement than the full sample of respondents, although the middle class did experience a similar volatile downward trend in job insecurity during the period from 1982 to 2006. Figure 6.7 presents the predicted values for perceived job insecurity, job loss likelihood and difficulty of job replacement, among middle class respondents.

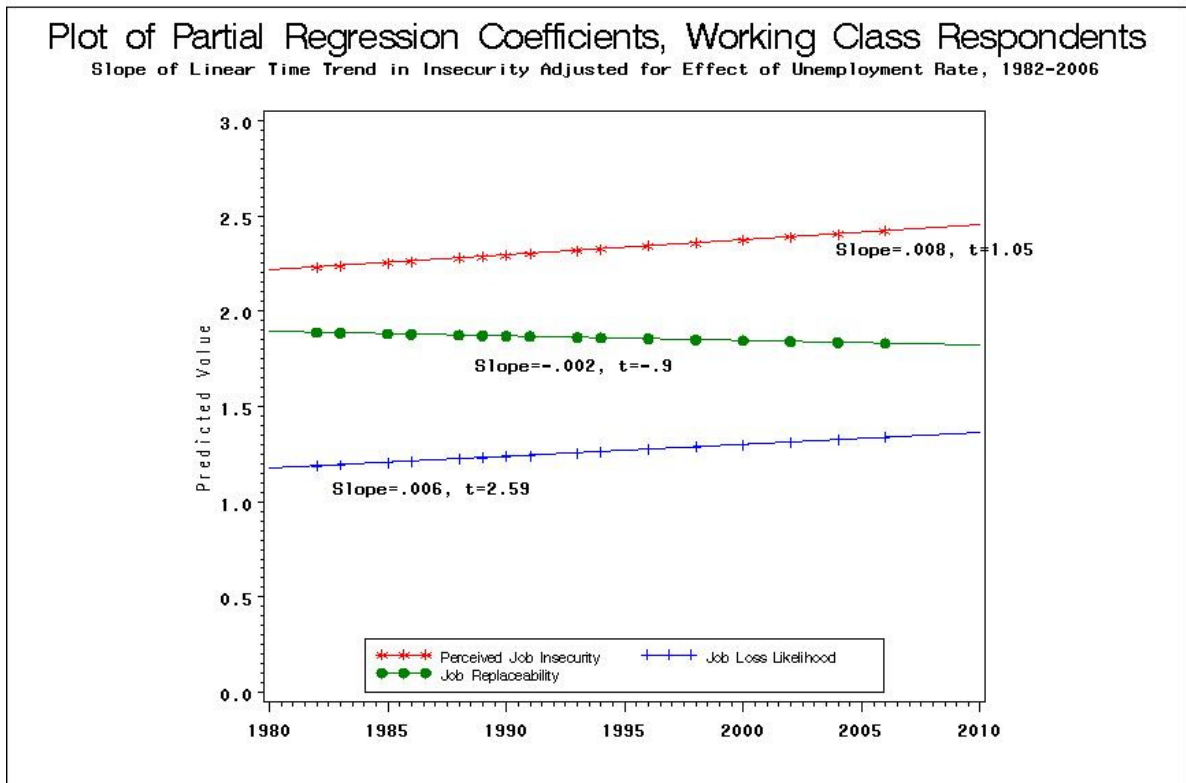
Figure 6.7



Note: the test-statistics presented in this figure are overinflated. For interpretation purposes, deflate the value of the test-statistic by a factor of 1.2.

After controlling for the annual unemployment rate, the predicted levels of job insecurity for the middle class are quite similar to those for the full sample (the rate of increase is identical). This is likely due to the large proportion of sample members who fall into the middle class. As a comparison, a subsample of working class respondents – those with 12 or fewer years of education and a working class occupation, as defined above – was created. Figure 6.8 presents the slopes for the three insecurity measures for this group of working class respondents.

Figure 6.8



Note: the test-statistics presented in this figure are overinflated. For interpretation purposes, deflate the value of the test-statistic by a factor of 1.2.

The graph in Figure 6.8 depicts significantly higher levels of perceived job insecurity as compared to the middle class sample captured in Figure 6.7. Though levels of perceived insecurity are higher among the working class at the beginning of the time series, the rate of growth is substantially smaller (slope = .008) compared with the rate of growth for the middle class (slope = .018). As a result, while the working class begins the time series

with higher job insecurity, by 2006 their levels are virtually the same, (2.40 for the middle class, 2.43 for the working class.)

T-tests of the difference in means between the middle and working class samples are significant aggregated across all 18 years of data ($t = 17.02, <.0001$). When examined by year, the difference in means is significant at the .05 level in 15 of the 16 years of data. Another notable feature of the working class trends is the persistent negative slope for job replaceability. After controlling for the annual unemployment rate, the predicted values for difficulty finding a replacement position decrease during this time period.

The higher initial level of perceived insecurity for working class than middle class respondents is supportive of the literature which argues that with regard to employment insecurity, outcomes for middle and working class workers are increasingly similar. One explanation for this is the proliferation of low-income jobs over the last two decades. For example, service sector employment, which is categorized as working class in this analysis, ballooned during the 1990s perhaps contributing to respondents' reports of greater ease in securing replacement jobs. In addition to the growth in service sector jobs, the perception of replaceability is most likely affected by the transience of service sector workers. One reason that these jobs are susceptible to involuntary termination is the relative ease with which employers replace workers. This high rate of turnover is most notable in the fast food industry (Newman, 1999), in which workers are easily replaced by a competing pool of unemployed laborers. The next section of this chapter tests this explanation by comparing levels of job insecurity among six occupational categories.

Occupation and Demographic Differences in Perceived Job Insecurity

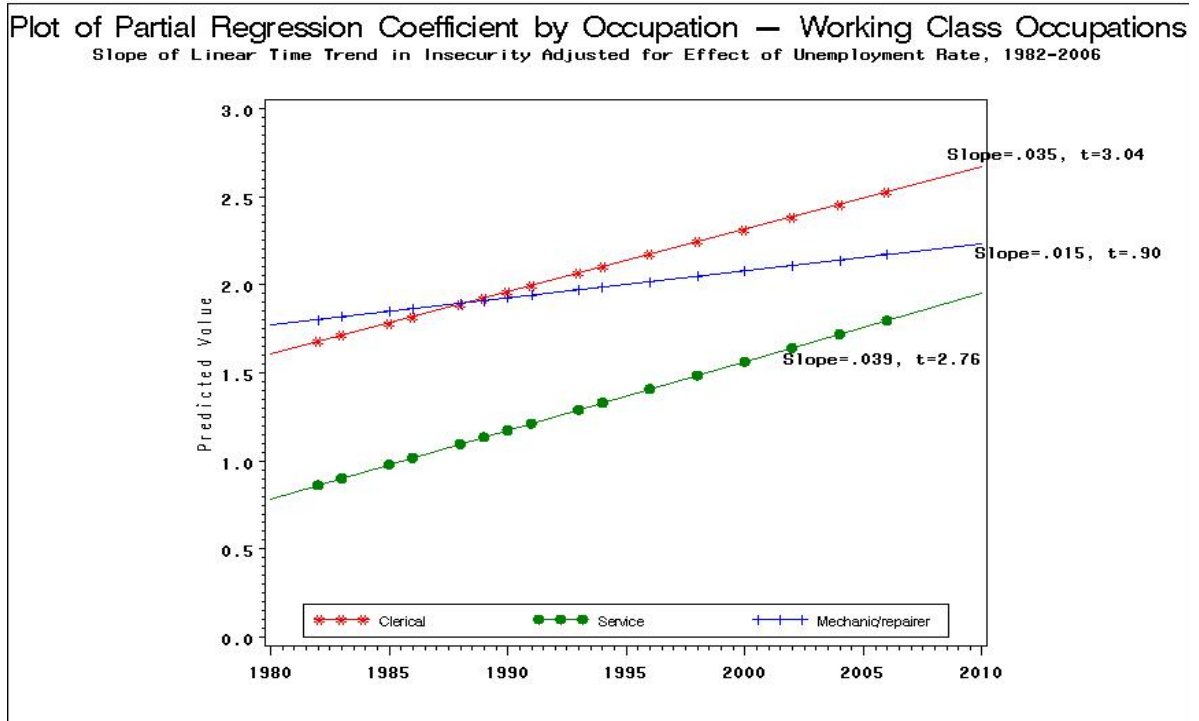
This study argues that job insecurity acts as one of the pivotal mechanisms mediating macro-level economic changes and consumer behavior. Such insecurity is attributable, in part, to the greater employment volatility accompanying the transition to late-capitalism. To learn more about the connection between perceived insecurity and employment characteristics, this section compares rates of growth in perceived job insecurity across occupations, employment sectors, income categories and several other demographic characteristics. The goal is to uncover which characteristics affect respondents' vulnerability to the changing economic environment.

Occupation

Occupation is anticipated to be a significant predictor of perceived job insecurity. Respondents in working class occupations are expected to have higher levels of job insecurity than respondents from professional or middle class occupations due to their lower occupational status and the prevalence of contingent work arrangements among the working class. One of the most valuable contributions of insecurity literature is its demonstration that the historical inequality in job security is eroding, as the previously secure middle class has experienced increasing job insecurity during the last two decades. Figures 6.9 and 6.10 display the predicted values for perceived job insecurity among occupational groups, controlling for the annual unemployment rate. For ease of analysis, I selected the six largest occupational categories, three of which fell into the category of working class occupations - clerical, service and mechanic/repairer - and three which

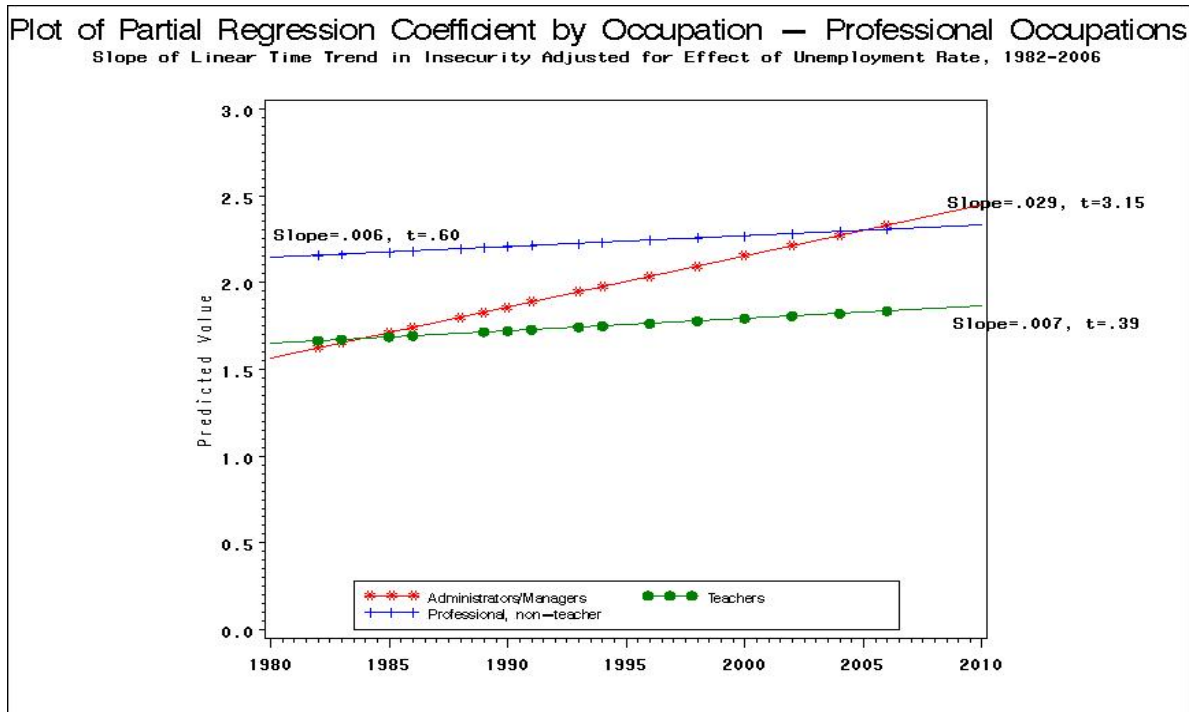
were classified as professional or middle class occupations - administrator/manager, teacher and professional (non-teaching). Figure 6.9 displays the trends for the three working class occupations; while Figure 6.10 displays professional, white-collar occupations.

Figure 6.9



Note: the test-statistics presented in this figure are overinflated. For interpretation purposes, deflate the value of the test-statistic by a factor of 1.2.

Figure 6.10



Note: the test-statistics presented in this figure are overinflated. For interpretation purposes, deflate the value of the test-statistic by a factor of 1.2.

As Figure 6.9 demonstrates, clerical, service and mechanic/repairer workers each have substantial increases in the predicted level of job insecurity after controlling for the annual unemployment rate. This sharp increase is consistent with the literature which notes the replacement of more secure, manufacturing-based jobs with less stable, service sector positions beginning in the 1970s and continuing through much of this period. The greater relative stability of manufacturing is further supported by the more modest increase in job insecurity among the one manual labor occupational group – mechanic/repairers.

The findings captured in Figure 6.9 initially appear to contradict those presented in the earlier class analysis (Figures 6.7 and 6.8) which found a larger increase in perceived insecurity for working class respondents than for middle class respondents.

Though it is not examined here, the most likely explanation for this difference is that the largest working class occupations have experienced greater growth in insecurity than working class occupations as a whole. This seems plausible given the earlier discussion of vulnerability among service sector workers and the growing use of contingent workers to fulfill clerical needs (i.e., temp workers). By contrast, several of the remaining working class occupations may have experienced less growth in insecurity.

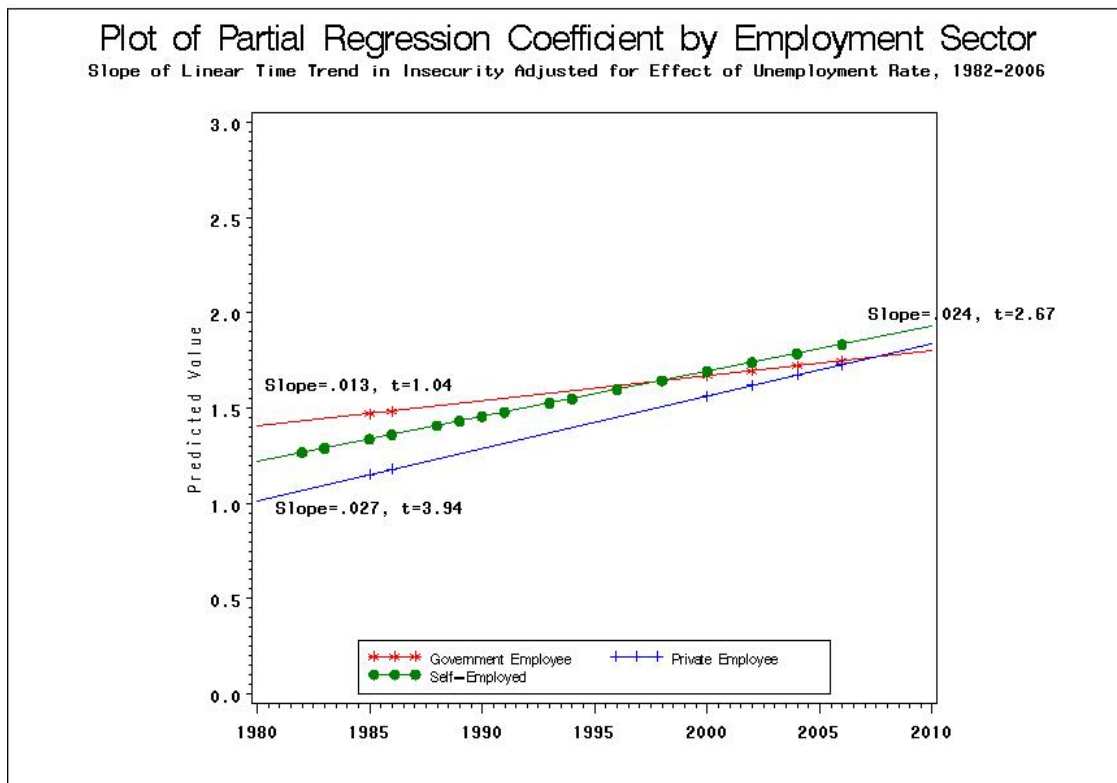
Figure 6.10 depicts the trend in job insecurity for administrators, teachers and non-teaching professionals. This group of workers begins the time series with higher levels of perceived job insecurity and lower levels of growth than their working-class counterparts. The sole exception to this is administrators/managers who had a sharp rise in job insecurity similar to service and clerical workers. Levels of job insecurity were lower for administrators than for teaching and non-teaching professionals in 1982, but they experienced rapid growth resulting in relatively high levels of insecurity by 2006. This result is consistent with the expected extension of risk to a broader range of class statuses. The Standard Occupational Classification used by the GSS categorizes administrators/managers as the occupational grouping with the highest socio-economic status. Such marked growth in perceived insecurity within this group supports the argument that middle and upper class jobs have become less stable over the last two decades.

Employment Sector

The public sector has traditionally provided employment security to its workers. For this reason, government employees are anticipated to exhibit lower levels of perceived

insecurity than workers in the private sector. In this section, respondents are analyzed in three subsamples according to whether they are employed as public or private workers or are self-employed. Figure 6.11 presents trends in the predicted levels of job insecurity for respondents in the government and private sectors after removing the effect of the annual unemployment rate. It should be noted that information about employment sector was collected by the GSS in only six years – 1985, 1986, 2000, 2002, 2004, 2006. Thus, the slopes for these equations are based on a more limited set of data points than those for the other subsamples presented in this chapter. Information on self-employment status was collected in all 15 years of data and thus values are present for each collection year.

Figure 6.11



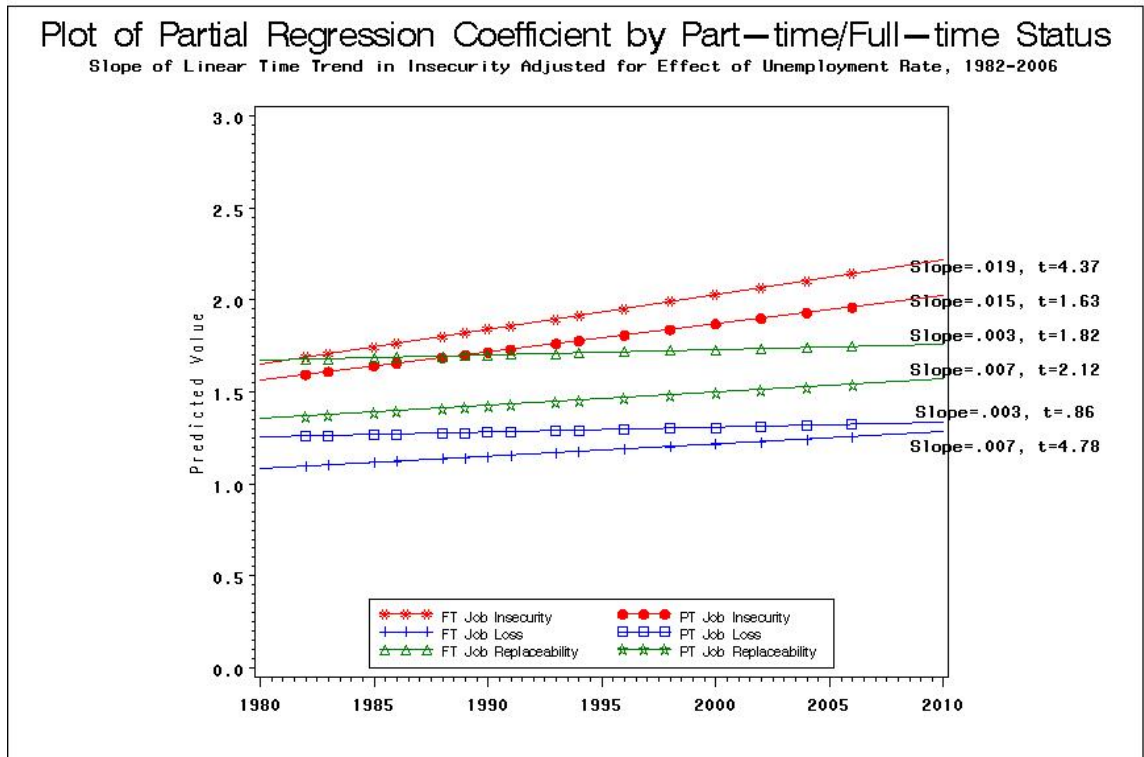
Note: the test-statistics presented in this figure are overinflated. For interpretation purposes, deflate the value of the test-statistic by a factor of 1.2.

At the beginning of the time series, government employees reported higher levels of perceived job insecurity than private employees or the self-employed. This is contrary to the expected pattern which would result in a lower level of insecurity among the publicly-employed sample during the 1980s. The slower rate of growth in predicted values relative to the private and self-employed samples results in lower levels of insecurity among public sector employees by 2006. Public sector employees exhibited less deterioration in the security of their working conditions than private and self-employed workers during this period.

Part-time/Full-time Status

Full time employees have typically enjoyed greater employment stability and security than those in part time positions. Greater vulnerability of part-time employees is due, in part, to employers' perceptions that part-time jobs are expendable. The precarious footing of part-time workers is compounded by the fact that part-time positions are often created to fill temporary work needs and therefore rarely receive long-term funding.

Figure 6.12



Note: the test-statistics presented in this figure are overinflated. For interpretation purposes, deflate the value of the test-statistic by a factor of 1.2.

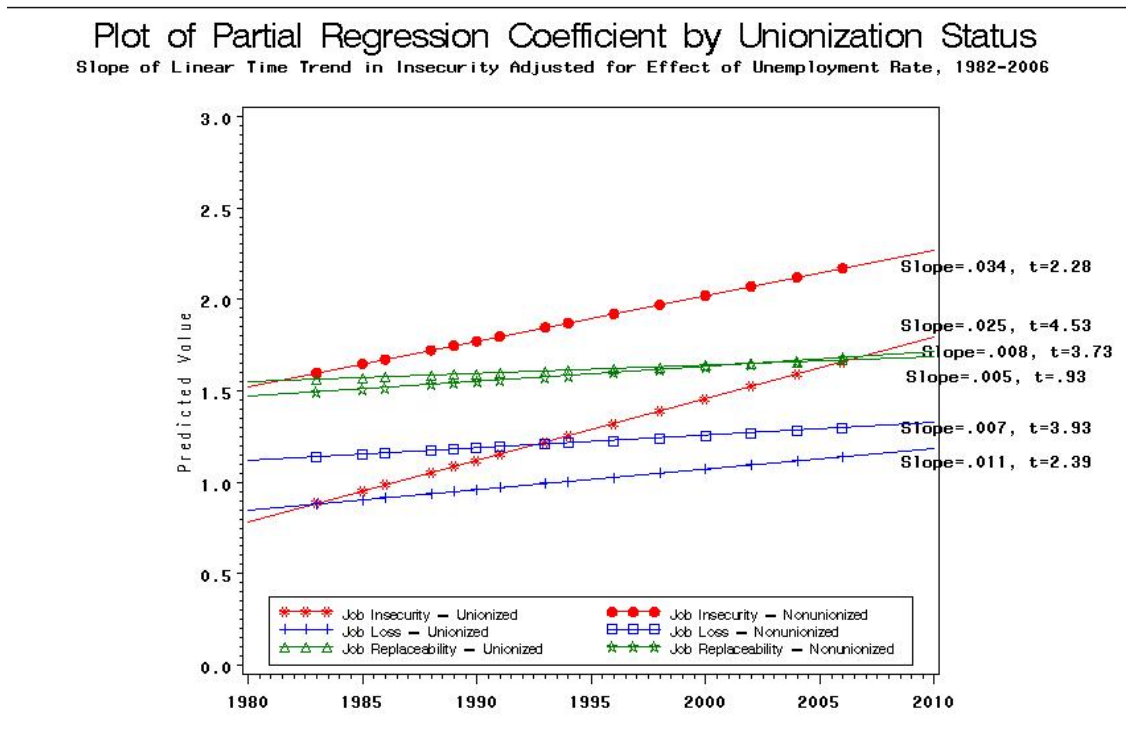
Figure 6.12 presents predicted values for job insecurity for subsamples of full-time and part-time workers. Initial comparison of the trends for these two groups revealed unexpected findings. Part-time employees reported consistently lower levels of perceived job insecurity than full-time employees. To further examine this finding, I included trend lines for responses to the two GSS questions that compose the job insecurity measure. This reveals that the unexpected results for perceived job insecurity are attributable to the comparatively greater difficulty full-time employees perceive finding a new job. While full-time employees have lower perceived likelihood of job loss, they report greater perceived difficulty in finding a replacement position than part-time workers.

Thus while overall job insecurity is increasing for both part-time and full-time workers, the underlying source of this insecurity is different for each group. Part-time workers experience a reduced sense of permanency in their current positions but are more optimistic about their prospects for finding a replacement position. Conversely, full-time workers experience greater security in their positions (relative to part-time workers) but more difficulty replacing lost jobs. The most notable findings from Figure 6.12 are that both have experienced increasing insecurity between 1982-2006 and that for job loss likelihood and job replaceability, trends for full-time and part-time workers are converging. That is, conditions for workers in these two groups have become more similar over time.

Job Unionization

Unionization provides workers with protection against layoffs and other forms of involuntary job loss, and often assists union members in finding new employment. Thus, respondents who reported that their primary job is unionized are expected to have lower levels of perceived job insecurity. Figure 13 presents the findings for subsamples of unionized and nonunionized workers.

Figure 6.13



Note: the test-statistics presented in this figure are overinflated. For interpretation purposes, deflate the value of the test-statistic by a factor of 1.2.

As predicted, non-unionized workers, denoted by the dotted line, have higher levels of job insecurity than unionized workers (controlling for the annual unemployment rate). This pattern was also evident in the trend lines for perceived likelihood of job-loss, in which predicted values for unionized workers are marked with plus signs and those for non-unionized workers are marked by square symbols. As was the case regarding the aggregate job insecurity measure, unionized workers exhibit lower levels of perceived job-loss likelihood at all points in the time series.

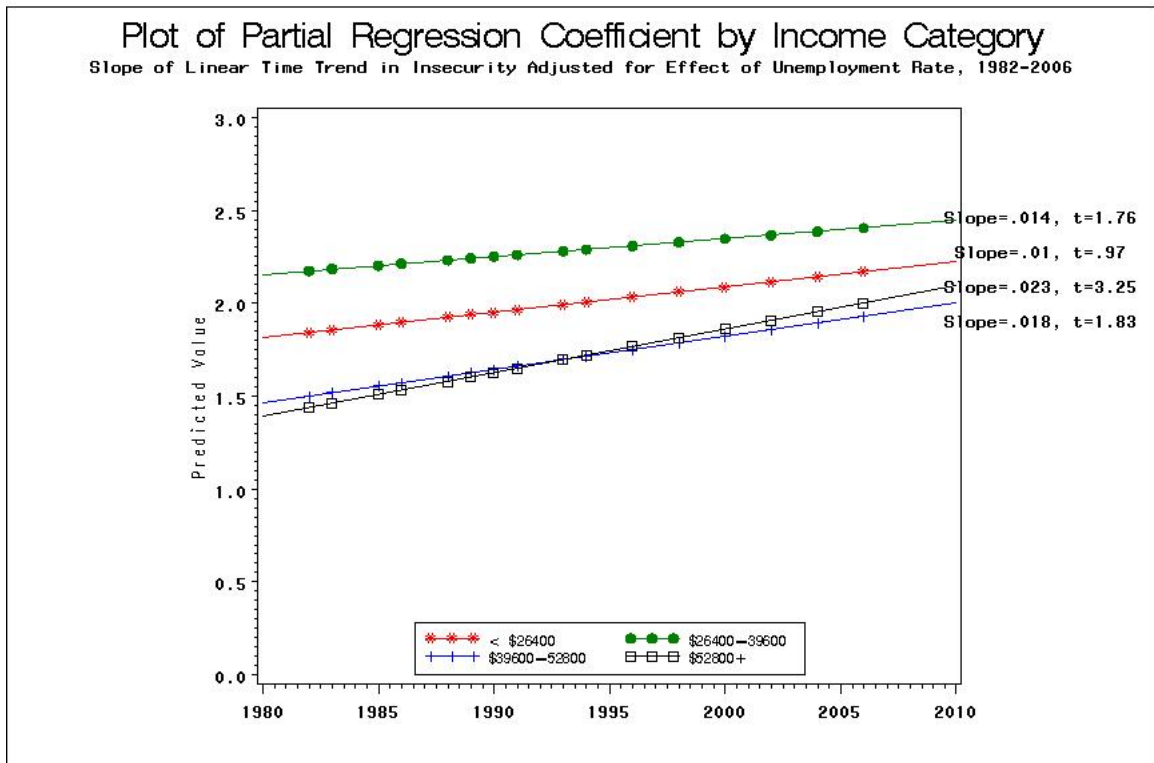
Consistent with the findings for part-time and full-time workers, levels of perceived job replaceability were roughly equal among both unionized and non-unionized workers, although both groups experienced and increase in perceived difficulty finding a replacement position. This suggests that the presence of unionized employment is

associated with a greater sense of protection from job loss, but not greater ease finding new work when job loss occurs.

Income

Examining trends in job insecurity across income classes is an alternative way to test the assertion that post-industrialism has contributed to a dispersion of employment and other forms of economic insecurity to households with previously secure economic conditions. The GSS collects respondent income during each survey wave, in nominal dollars. For this analysis, I adjusted reported income for inflation using CPS index values to represent all income amounts in 2006 dollars. In Figure 14, respondents are grouped into income category subsamples. The lowest income category includes all respondents earning less than twice the poverty threshold for a family of two in 2006 (\$26,400). I used the two person poverty threshold rather than the four person threshold since I examine personal income rather than the standard household income. The second income category includes respondents with income between two and three times the poverty threshold (\$26,401 - \$39,600). The third category includes respondents whose income falls between three and four times the poverty threshold (\$39,601 - \$52,800) and the final category captures incomes above \$52,800 in 2006 dollars.

Figure 6.14



Note: the test-statistics presented in this figure are overinflated. For interpretation purposes, deflate the value of the test-statistic by a factor of 1.2.

The results displayed in Figure 6.14 are consistent with the argument that job insecurity is spreading even among individuals with higher status occupations. All four income categories experienced an increase in perceived job insecurity from 1982-2006, although income levels did not entirely predict expressed levels of insecurity: the lower-middle income category (\$26,401 - \$39,600) had higher levels of job insecurity than the lowest paid group. This may be attributable to the greater job replaceability experienced by workers in the lowest income group. The two highest income groups, marked by plus and square symbols, have lower initial (1982) levels of perceived insecurity; however the slope for their predicted values was larger than the slope for the lower income groups. If this rate of growth continues, levels of job insecurity among the well-off will approach

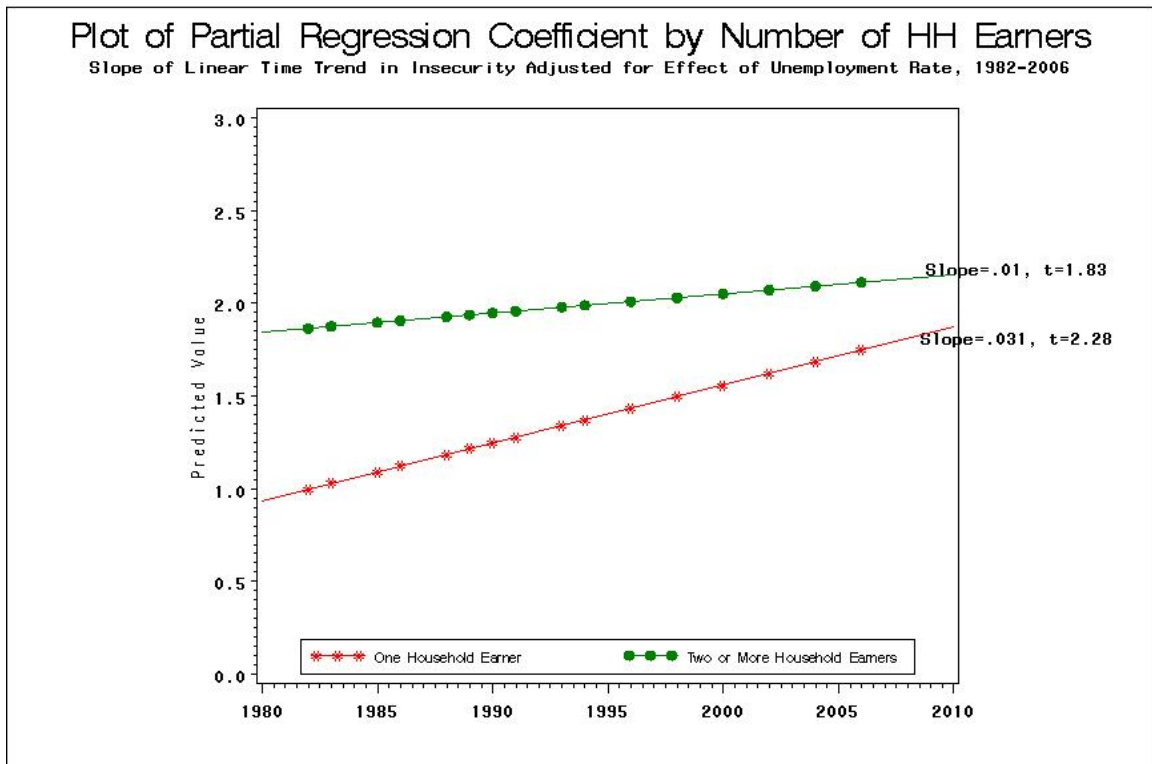
those reported by respondents in lower income brackets. The larger relative growth in job insecurity among respondents with high income affirms the literature on post-industrialism which emphasize the expansion of job insecurity to the middle class.

Number of Household Earners

A complicated relationship exists between the number of income earners in the respondent's household and their perceived job insecurity. On the one hand, respondents with only one household earner are likely to experience greater anxiety about job loss than otherwise similar respondents who have a spouse or other family members' income to rely on. For this reason, respondents with only one earner in the household are expected to have higher levels of perceived job insecurity. On the other hand, the relative financial well-being of married households choosing to have a single income earner is likely associated with greater employment stability than households that rely on two or more income earners.

Figure 6.15 presents the predicted values for job insecurity according to the number of earners in the household. While previous graphs included all respondents with at least one working adult in the household, Figure 6.15 includes only married households (N=7729). This limitation is imposed because a comparison of the number of earners which included unmarried households would be subject to significant age and socio-economic effects as unmarried individuals would appear, for the purpose of examining the effect of number of earners, identical to married households who either by choice or circumstances have one adult that is unemployed.

Figure 6.15



Note: the test-statistics presented in this figure are overinflated. For interpretation purposes, deflate the value of the test-statistic by a factor of 1.2.

The results displayed in Figure 6.15 provide interesting information about the competing effects discussed above. As the graph indicates, married households with only one earner had lower levels of perceived job insecurity than households with more than one earner.

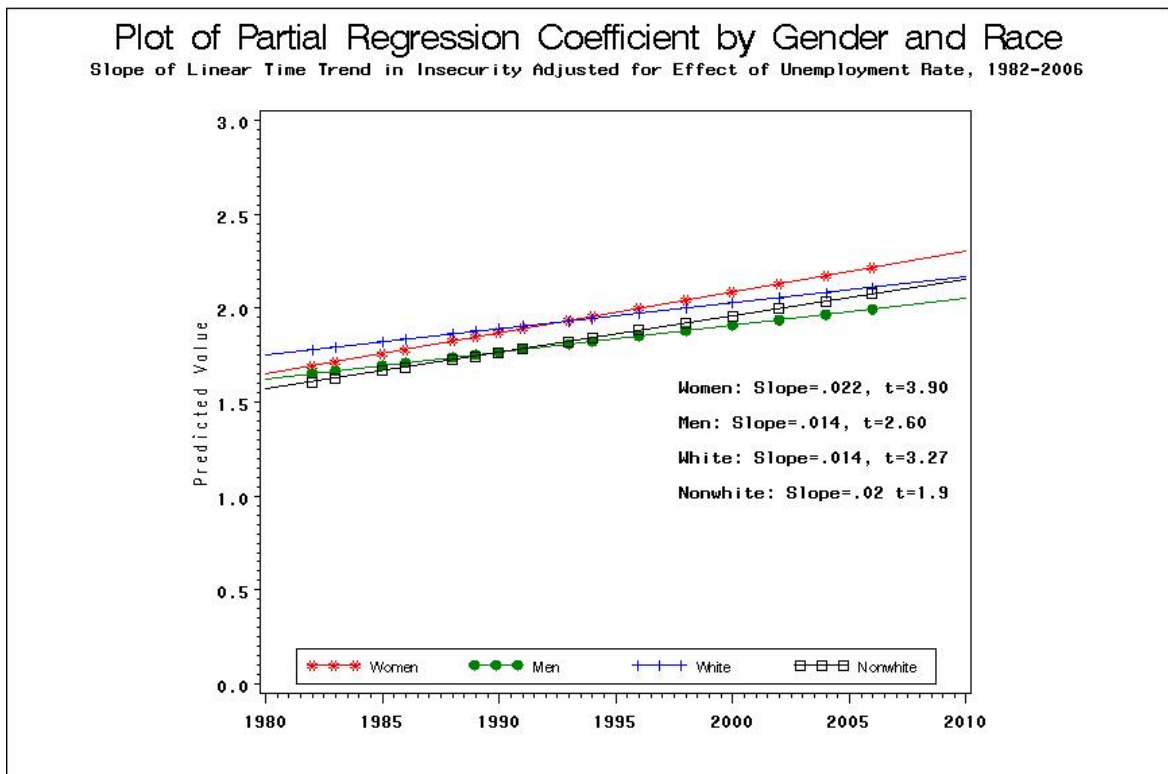
This supports the hypothesis that single-earner households enjoy greater economic security due to sole-earners', on average, more stable jobs. However, the graph also shows that the level of perceived job insecurity among single-earner households is increasing more rapidly than households with two or more earners. This suggests that economically well-off households - those that can afford to remove a spouse from the labor force - are experiencing declining job security from those well-paying positions.

Gender and Race Differences

Differences in perceived job insecurity according to the respondent's race or gender characteristics are anticipated to result from differences in labor market status. Nonwhite and female workers are overrepresented in temporary, part-time and service sector employment and thus are expected to report higher levels of perceived job insecurity.

Figure 6.16 below presents predicted levels of job insecurity separately for men and women, and also for white and nonwhite respondents. Respondents are represented twice in this graph according to their gender and race characteristics.

Figure 6.16



Note: the test-statistics presented in this figure are overinflated. For interpretation purposes, deflate the value of the test-statistic by a factor of 1.2.

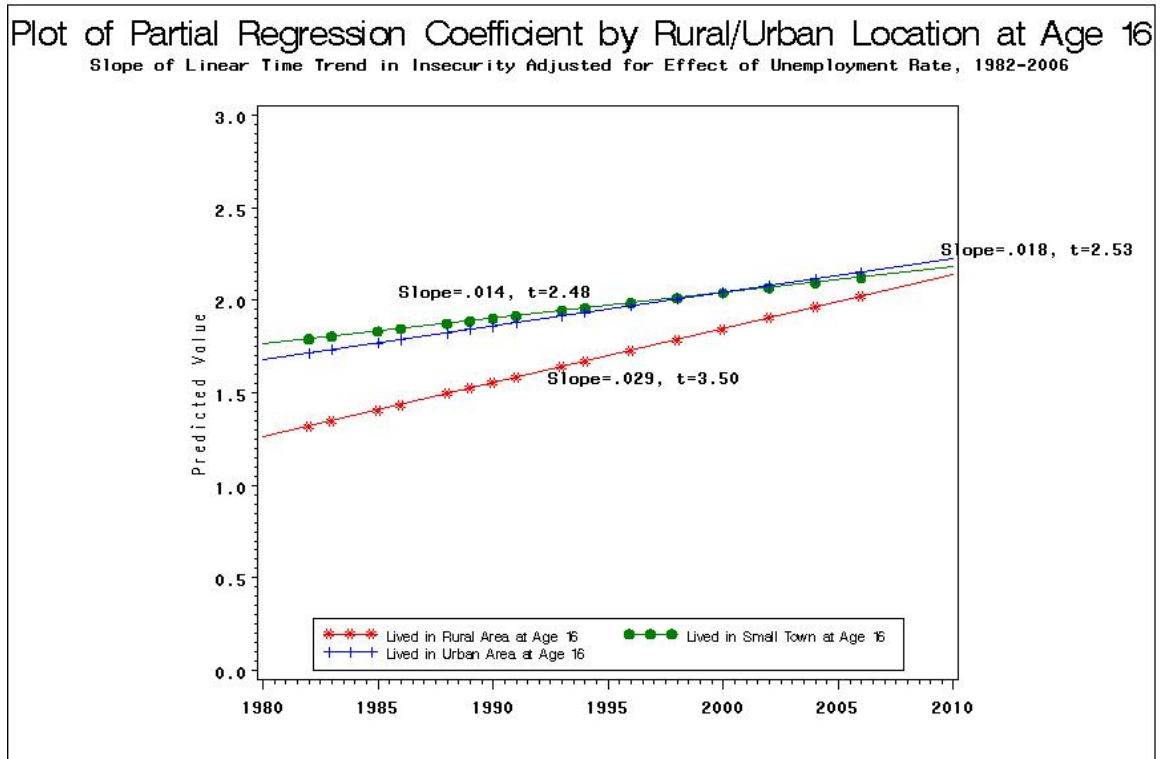
As this graph indicates, there is remarkable similarity, both in the level and rate of growth, in perceived job insecurity between nonwhite and white respondents and between

females and males. Careful examination of the trend lines show that men and women begin the time series with quite similar levels of job insecurity but are diverging modestly at later time points. By contrast, responses for white and nonwhite respondents appear to be converging during the period presented, and have virtually identical levels of predicted job insecurity by 2006. Overall, Figure 6.16 demonstrates that gender and race do not seem to be significant determinants of perceived job insecurity.

Rural/Urban Location at Age 16

To further examine the relationship between respondents' demographic features and their perceived job insecurity, the following figure (6.17) compares levels of job insecurity, controlling for annual the unemployment rate, for respondents from rural, small town and urban origins. Unfortunately, the GSS does not contain a measure of the rural/urban residence of respondents at the time of the interview across the time period of this analysis. Instead, a question about the respondent's residence type at age 16 is substituted as a proxy for the cultural and attitudinal differences that may exist between urban and rural located individuals. Values for this variable are whether they lived in a rural area, a small town, medium sized city, large city or suburb of a large urban area at age 16, however these categories are collapsed for analysis and presentation in Figure 6.17.

Figure 6.17



Note: the test-statistics presented in this figure are overinflated. For interpretation purposes, deflate the value of the test-statistic by a factor of 1.2.

Overall, respondents who grew up in a rural environment (farm and non-farm households) had lower levels of perceived job insecurity during this period. Respondents from small towns and urban areas had similar outcomes. Interestingly, rural residents experienced greater growth in perceived job insecurity from 1982-2006 such that by 2006, their levels were similar to respondents from more urbanized backgrounds. This finding may be the result of the continued dissolution of family farms and the surrounding rural economies. As farms are increasingly consolidated, farming lifestyles and the local economies that depend on them have become increasingly insecure and undependable.

Perceived Job Insecurity and Attitudinal Characteristics

To draw a complete picture of job insecurity over this 26 year time period, I turn now to a description of several attitudinal attributes assumed to be related to perceived job insecurity. The purpose of this section is not to determine which of these factors *predicts* job insecurity outcomes, but instead to better understand the degree to which insecurity varies according to respondents' attitudinal characteristics. Causal order limits the capacity to establish a predictive relationship between these measures. For example, when looking at perceived job insecurity and life satisfaction, it is virtually impossible, particularly with the cross-sectional data available in the GSS, to determine whether an individual's degree of life satisfaction causes an increase or decrease in job insecurity or, on the other hand, whether their relative level of job insecurity is impacting life satisfaction. However, this analysis is useful for gaining a better understanding of how perceived job insecurity relates to other aspects of the respondent's subjective experience. In the following paragraphs I examine, in aggregate, the relationship between several attitudinal characteristics and perceived job insecurity, highlighting changes in the relationship over time.

Job Satisfaction

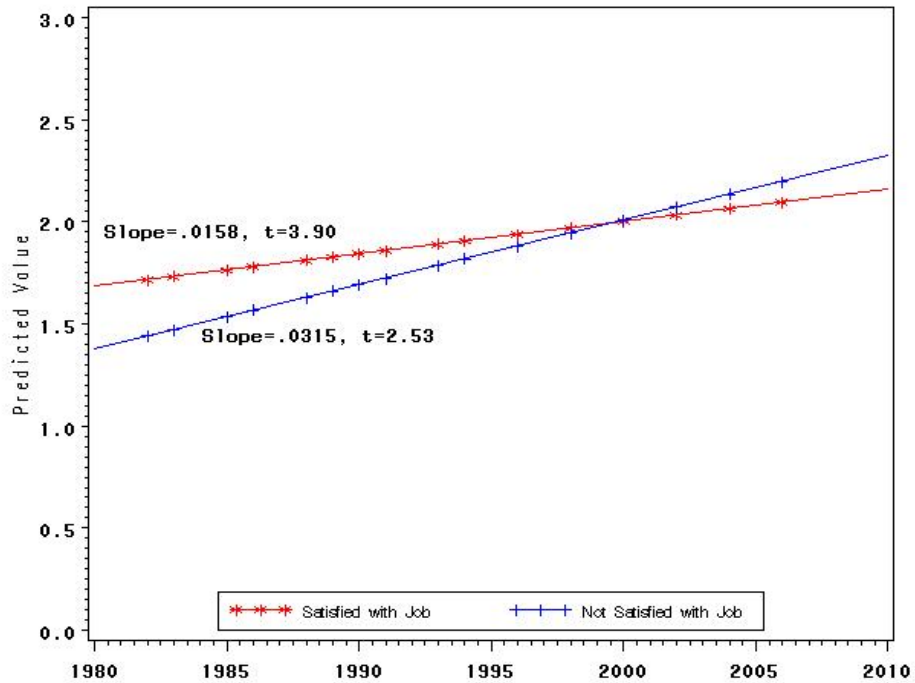
Individuals' level of satisfaction with their job is expected to be impacted by their perception of that job's security. The GSS asks respondents to report their general level of satisfaction with their current (primary) job. The correlation coefficient for responses to this question and the job insecurity measure (JOBINSEC) was $-.153$ ($p: <.0001$), indicating a moderate negative correlation between job satisfaction and job insecurity.

This relationship results from two possible factors. Individuals who feel their jobs are insecure – that is more likely to result in involuntary termination – may also develop lower levels of satisfaction with that job. Alternatively, as demonstrated in the literature on contingent work, jobs that are insecure (i.e. temporary/contract work), and those subject to layoffs, are predisposed to unpredictable hours, irregular pay, low autonomy, and poor benefits, that in turn, lower workers' satisfaction with their employment arrangements.

To examine this relationship in more detail, perceived job satisfaction was regressed on time, controlling for the annual unemployment rate, which as discussed above has been found to have a substantial effect on job insecurity levels. Figure 6.18 displays the predicted values for two subsamples, respondents who reported that they were either 'very' or 'moderately' satisfied with their jobs (plot line marked with 'asterisk' symbol) and respondents who reported that they were 'a little' or 'very' dissatisfied with their job (plot line marked with 'plus' symbol).

Figure 6.18

Plot of Partial Regression Coefficient by Degree of Job Satisfaction
Slope of Linear Time Trend in Insecurity Adjusted for Effect of Unemployment Rate, 1982-2005



Note: the test-statistics presented in this figure are overinflated. For interpretation purposes, deflate the value of the test-statistic by a factor of 1.2.

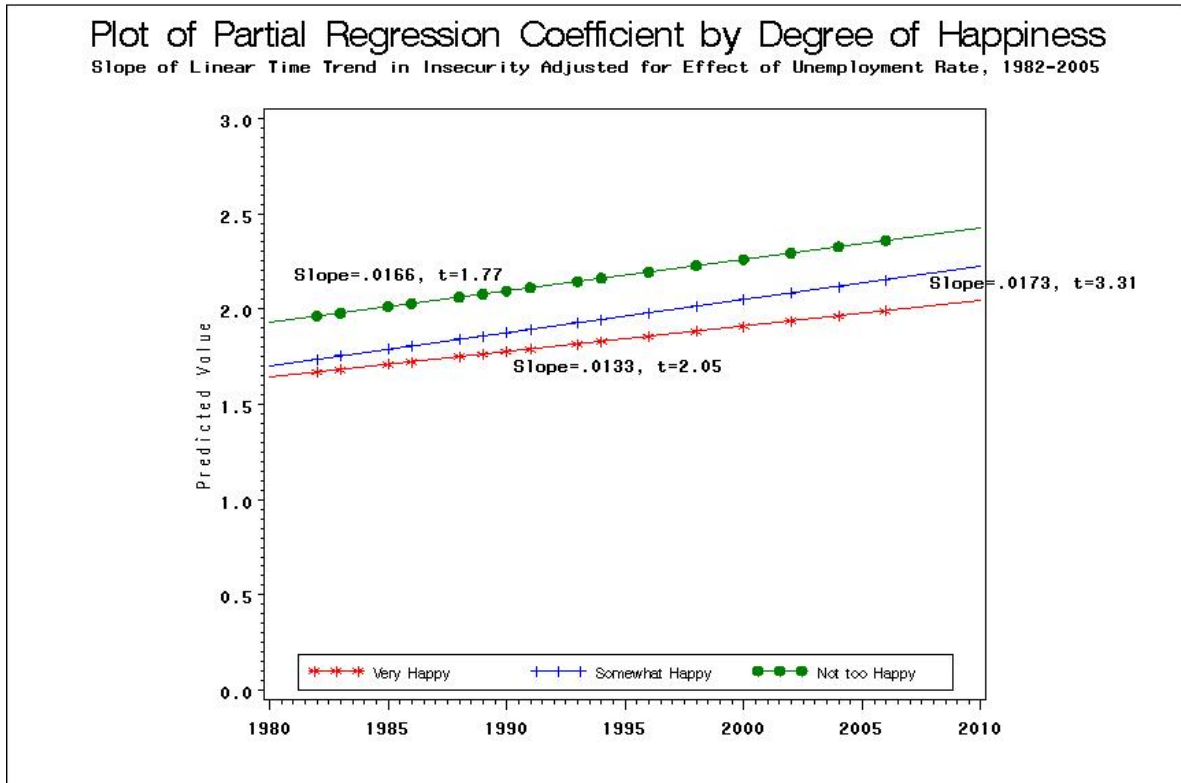
At the beginning of the time series, those who reported satisfaction with their job had higher levels of perceived job insecurity. However, by 2000, larger annual increases in perceived insecurity resulted in higher levels for those dissatisfied with their jobs, although both groups experienced increasing insecurity over time. One interpretation of this result is that job insecurity has had a stronger effect on respondents' job satisfaction over time; however this analysis does not allow me to determine conclusively the direction of any effect between respondents' job insecurity and their level of satisfaction.

Overall Happiness

Similar issues exist when attempting to establish causality between respondents' perceived job insecurity and their overall level of happiness. The GSS asks respondents whether 'taken all together' they would describe themselves as 'very happy' (31%), 'pretty happy' (60%) or 'not too happy' (9%). Values for this variable range from 3 (very happy) to 1 (not too happy). Respondents' with greater perceived job insecurity may report less overall happiness due to employment-related anxiety. Alternatively, respondents with lower levels of happiness may exhibit more pessimism about life outcomes, including their employment. Across the time series, the correlation between reported happiness and job insecurity was $-.156$ ($p: <.0001$), indicating a moderate, negative association between these two attitudinal measures.

Figure 6.19 depicts levels of perceived job insecurity over time, controlling for the annual unemployment rate. The predicted values for each year are displayed according to responses on the happiness question. In all three groups perceived job insecurity, purged of the effect of the annual unemployment rate, increased between 1982 and 2006. The slope and t-value of each plot line appears in the graph.

Figure 6.19



Note: the test-statistics presented in this figure are overinflated. For interpretation purposes, deflate the value of the test-statistic by a factor of 1.2.

As expected, predicted values for respondents who rated themselves as ‘very happy’ were consistently lower than the other two groups. Notably, the gap in perceived job insecurity between the ‘very happy’ and ‘pretty happy’ group increased during the time series. All respondents had consistently increasing levels of job insecurity throughout this period.

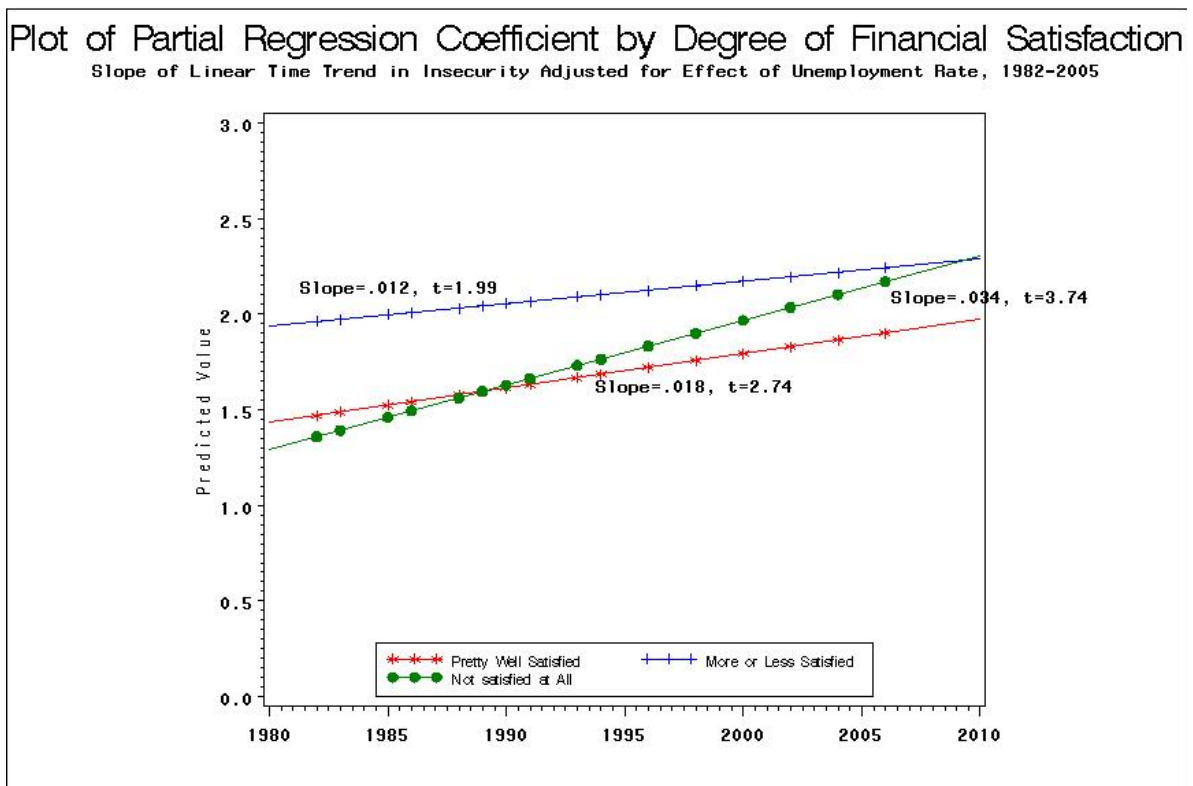
Financial Satisfaction

The GSS collects information on respondents’ satisfaction with their present financial situation. Respondents who report greater satisfaction are expected to have lower levels of perceived job insecurity. This negative relationship is expected because individuals

are likely to incorporate knowledge of employment stability when assessing their financial soundness. Thus, on average, respondents who perceive their employment to be less secure are expected to evaluate their financial well-being with greater pessimism. Values for the GSS variable measuring financial satisfaction are: 'Pretty well satisfied' (1), 'More or less satisfied' (2) and 'Not at all satisfied' (3). The correlation coefficient between perceived job insecurity and financial satisfaction was $-.14$ ($p: <.0001$), indicating a moderate, negative relationship.

Figure 6.20 plots the predicted values of job insecurity for each of the three response categories.

Figure 6.20



Note: the test-statistics presented in this figure are overinflated. For interpretation purposes, deflate the value of the test-statistic by a factor of 1.2.

The results both support and disaffirm expectations. Perceived job insecurity increased, albeit modestly, from 1982-2006. Respondents who stated that they are not at all satisfied with their financial situation had the fastest growing levels of job insecurity between 1980 and 2006. At the beginning of the time series, insecurity does not appear to be associated with general financial satisfaction, with those that are moderately satisfied having significantly higher levels of insecurity than the very and not at all satisfied respondents. However, by the end of the time series levels of job insecurity are more closely aligned to financial satisfaction with a negative relationship evident in the above graph. This is consistent with the literature which has argued that insecurity spread to the middle class during this period, a group that is expected to report greater satisfaction with their financial state.

Respondents who reported that they were 'more or less satisfied' with their financial situation had higher predicted levels of job insecurity at all points in the time series, although their growth in insecurity was more modest than the 'pretty well satisfied' group. Surprisingly, respondents who reported that they were 'not satisfied at all' with their financial situation had the lowest levels of perceived job insecurity among these three groups. One possible explanation for this inconsistency stems from the measures underlying the perceived insecurity index. As described earlier in this chapter, this index combines scores perceived likelihood of job loss and perceived difficulty in finding a replacement job. It is known that many low status, 'bad jobs' to use Kalleberg's terminology (1998), tend to expose workers to higher risk for job loss. However, due to their relatively lower salary and poor benefits, these jobs also tend to be more plentiful in the contemporary economy and therefore easier to replace. The group

of respondents who reported dissatisfaction with their financial situation, may have lower predicted levels of job insecurity due to the greater replaceability of their jobs.

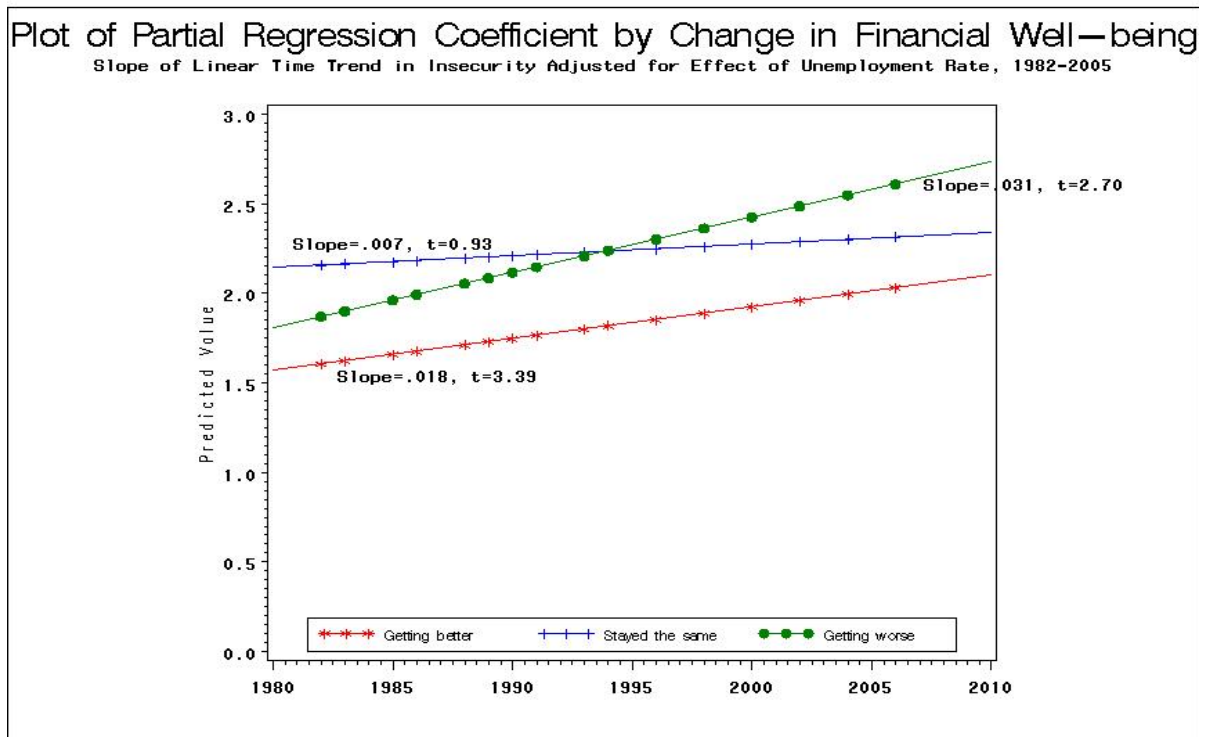
Change in Financial Well-being

Individuals reporting higher levels of insecurity in their primary employment are expected to be more likely to perceive their financial situation as worsening rather than improving relative to those with lower levels of job insecurity. There are several underlying factors that may affect this relationship. For instance, the generalized vulnerability associated with job insecurity resulting in a more pessimistic view of one's personal finances. An alternative explanation is that individuals with a history of involuntary job loss are more likely to perceive their current job as insecure and also to experience a second bout of involuntary job loss. Finally, households with changing financial conditions, either in the positive or negative direction, are more likely to have experienced a recent change of employment resulting in income volatility. New employees, lacking job tenure, are vulnerable to layoffs and other forms of involuntary job loss. Thus, respondents who reported that their financial well-being has worsened in recent years are expected to have greater levels of insecurity relative to those whose financial conditions have improved or stayed the same.

The GSS asks respondents whether overall, they feel that their financial situation has gotten better (value = 1), gotten worse (value = 3) or stayed the same (value = 2) over the last year. Across all three response categories, the correlation between perceived job insecurity and change in financial situation was .085 ($p < .0067$). Figure 21 depicts three trends in job insecurity according to responses to the GSS question on change in financial

situation. Predicted values of job insecurity are purged of the effect of the annual unemployment rate.

Figure 6.21



Note: the test-statistics presented in this figure are overinflated. For interpretation purposes, deflate the value of the test-statistic by a factor of 1.2.

Job insecurity, net of the annual unemployment rate, increased in all three groups from 1982-2006. However, the slope for time was not significant for respondents who reported that their financial situation had ‘stayed the same’. Both groups with change in their financial situation had significant, positive slopes for the trend in job insecurity. As expected, an improving financial situation was associated with lower levels of perceived job insecurity. Interestingly, respondents with worsening financial conditions had lower levels of perceived job insecurity than those with static financial conditions during the first half of this time series. However, the larger positive slope resulted in the highest

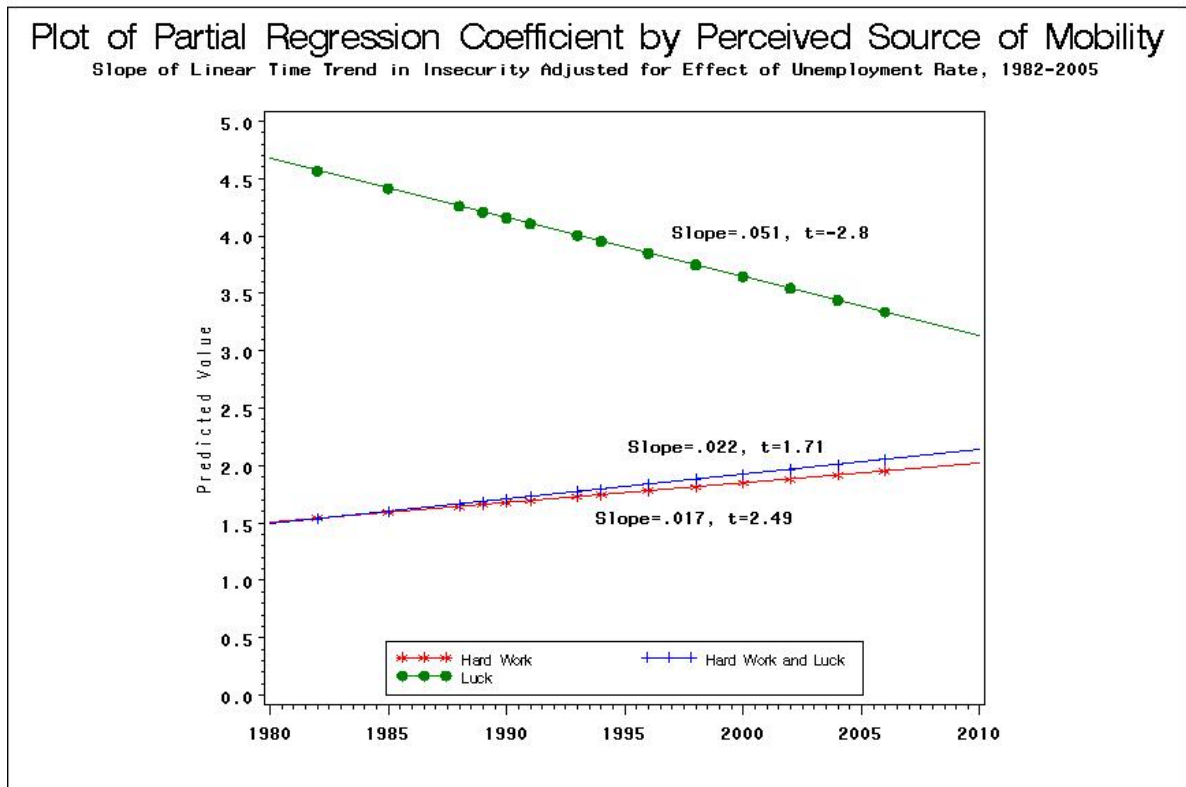
levels of job insecurity from 1994 – 2006. This suggests that perceived job insecurity may contribute more to individuals' perception of their financial situation in later years.

The growth in perceived insecurity among both groups with changed financial conditions suggests a strengthening in the overall volatility resulting from employment instability. Respondents who report a change in household financial conditions are more likely to have experienced employment instability for at least one working member of the household. These groups perceive greater job insecurity in their current employment than respondents whose financial situation remained static, and are therefore less likely to have experienced recent instability of employment.

Source of Social Mobility

The GSS surveys respondents on their opinion of what creates social mobility in the U.S. Respondents choose between attributing social mobility primarily to hard work, luck or a combination of both. Responses to this question assess, among other things, the degree to which the respondent holds themselves and others responsible for life outcomes. The belief that luck is the primarily responsible for success or failure may be associated with greater perceived job insecurity since respondents who provide this response may be more likely to view the security of their job as out of their control. Conversely, the belief that hard work creates positive life outcomes is expected to be associated with greater sense of agency over one's employment conditions. Thus, predicted levels of job insecurity are anticipated to be lowest for the 'hard work' group and highest for the 'luck' group. Perceived source of mobility was correlated with perceived job insecurity at the .06 level ($p < .0001$).

Figure 6.22



Note: the test-statistics presented in this figure are overinflated. For interpretation purposes, deflate the value of the test-statistic by a factor of 1.2.

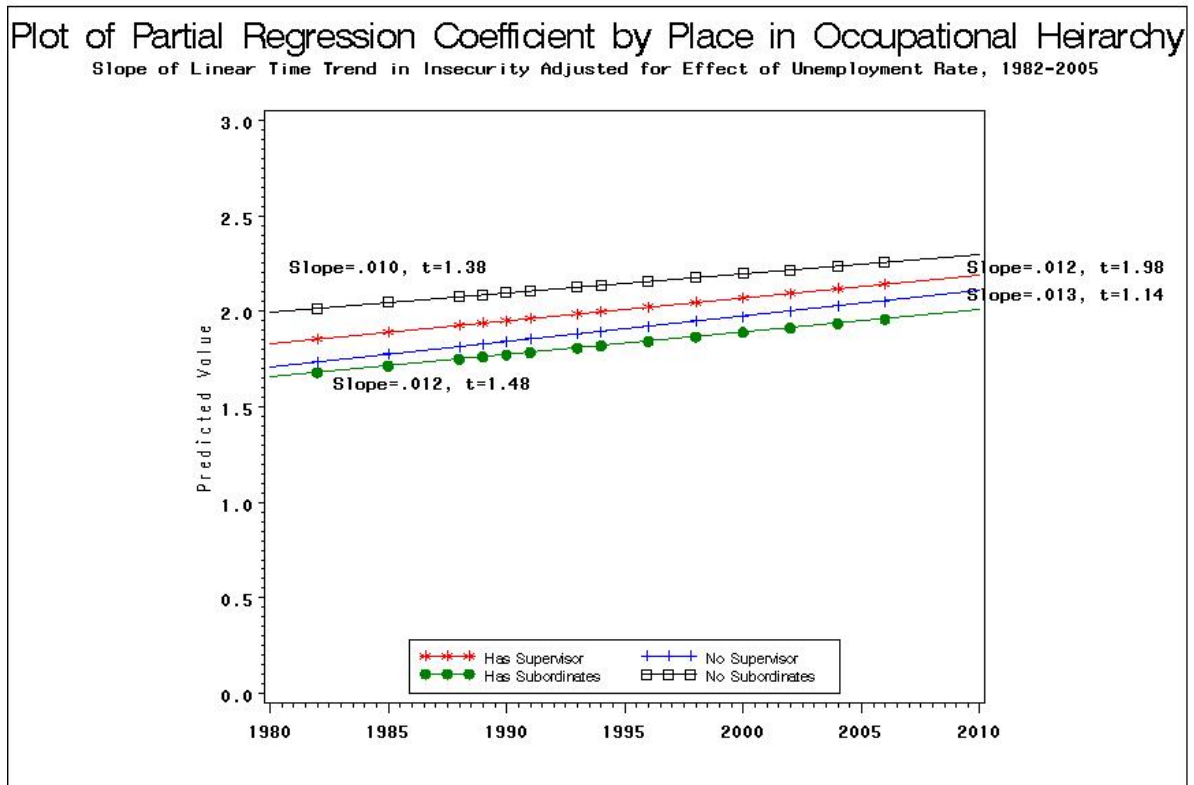
Figure 6.22 shows that, as expected, the slope for the ‘hard work’ and ‘hard work and luck’ groups follow a similar moderate, positive trend from 1982-2006. This is sharply contrasted by the trend for respondents who cited luck as the primary reason that individuals get ahead. While this group had higher predicted levels of job insecurity than the ‘hard work’ groups in all years, the slope was negative after controlling for the annual unemployment rate. This finding suggests that respondents who attribute ‘getting ahead’ to luck, and who presumably feel less agency over life outcomes, are actually experiencing less insecurity over time, although still higher levels than those who attribute success to hard work. This disaffirms the expected pattern for this group who were anticipated to be subject to increasing levels of insecurity.

Occupational Hierarchy

Perceived job insecurity is an outcome of a variety of personal, occupational and macro-level factors. Among these is the individual's position in the employment hierarchy. The General Social Survey measures the relative status of respondents' employment by asking whether they have a supervisor at their location of employment and whether they supervise one or more persons. Occupational hierarchy relates to perceived job insecurity because those at the bottom of the hierarchy are generally more susceptible to involuntary job loss. These lower-status jobs are more likely to be eliminated during employer layoffs and, as the literature suggests, tend to create less sense of autonomy within the job.

Figure 6.23 presents predicted job insecurity values for four sample groups, those with and without supervisors and those with and without subordinates. As a note, observations are represented twice on this graph according to the presence/absence of supervisors and subordinates.

Figure 6.23



Note: the test-statistics presented in this figure are overinflated. For interpretation purposes, deflate the value of the test-statistic by a factor of 1.2.

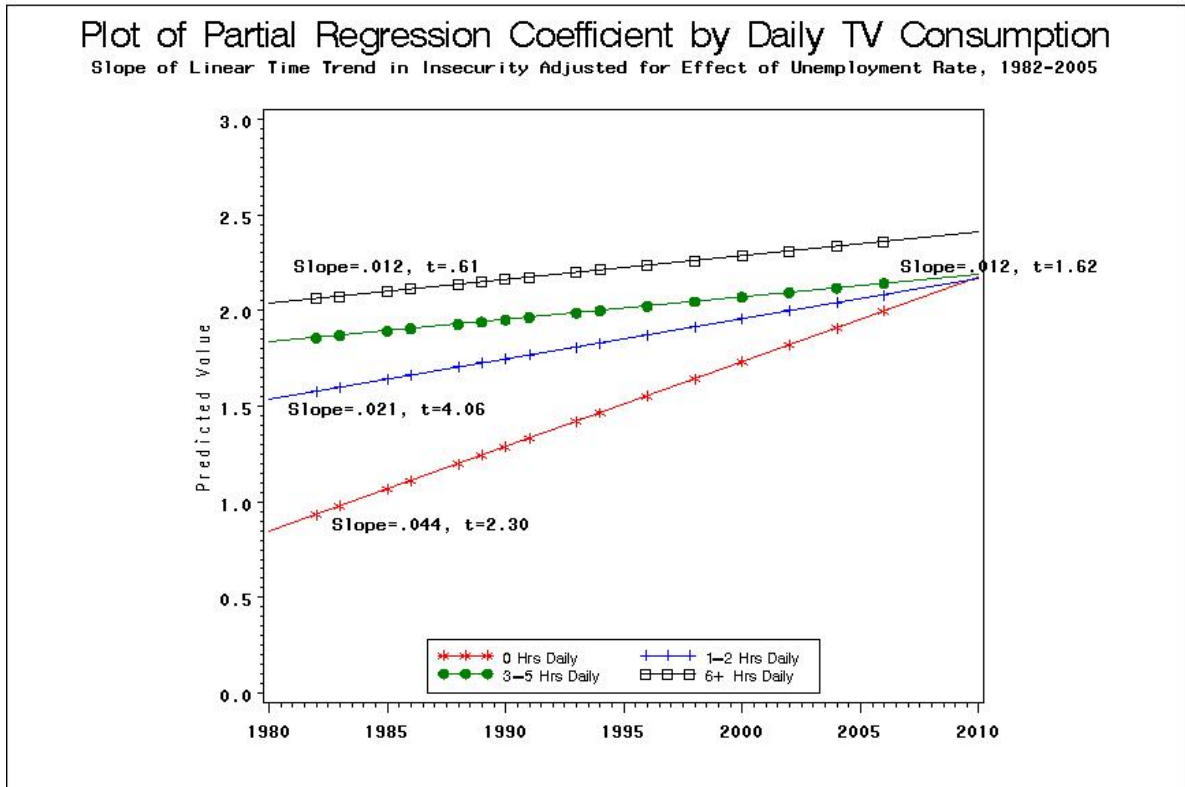
Notably, all four groups experienced increasing job insecurity over the time period 1983-2006. As expected, the presence of a supervisor and the absence of subordinates are associated with higher levels of perceived job insecurity. Interestingly, the presence/absence of subordinates has a stronger effect (greater difference) on the level of job insecurity than the presence/absence of an onsite supervisor. This suggests that being in a supervisory position either protects against or creates the impression of protection against job loss.

Media Exposure

Media viewing time is one of the most significant influences in individuals' knowledge of the larger economic environment in which they are working. Survey respondents who are saturated by this information are more likely to consider their employment conditions within the larger economic environment. In times of employment stability, either within the individual's job sector or more broadly, greater media exposure is expected to be negatively correlated with perceived job insecurity as the greater exposure to messages about the economy's well-being will generally reduce individuals' anxiety about the likelihood of job loss and job replaceability. However, in a period characterized by employment instability and job loss, such as the period covered by this analysis (1980 – 2005), media exposure is expected to be positively correlated with perceived job insecurity as workers view or read about the outcomes of others' job loss. Both television and newspaper consumption are positively, but weakly, (.05 and .02, respectively) correlated with perceived job insecurity.

Figure 6.24 plots the trend in predicted values of job insecurity for four groups according to average daily television consumption.

Figure 6.24



Note: the test-statistics presented in this figure are overinflated. For interpretation purposes, deflate the value of the test-statistic by a factor of 1.2.

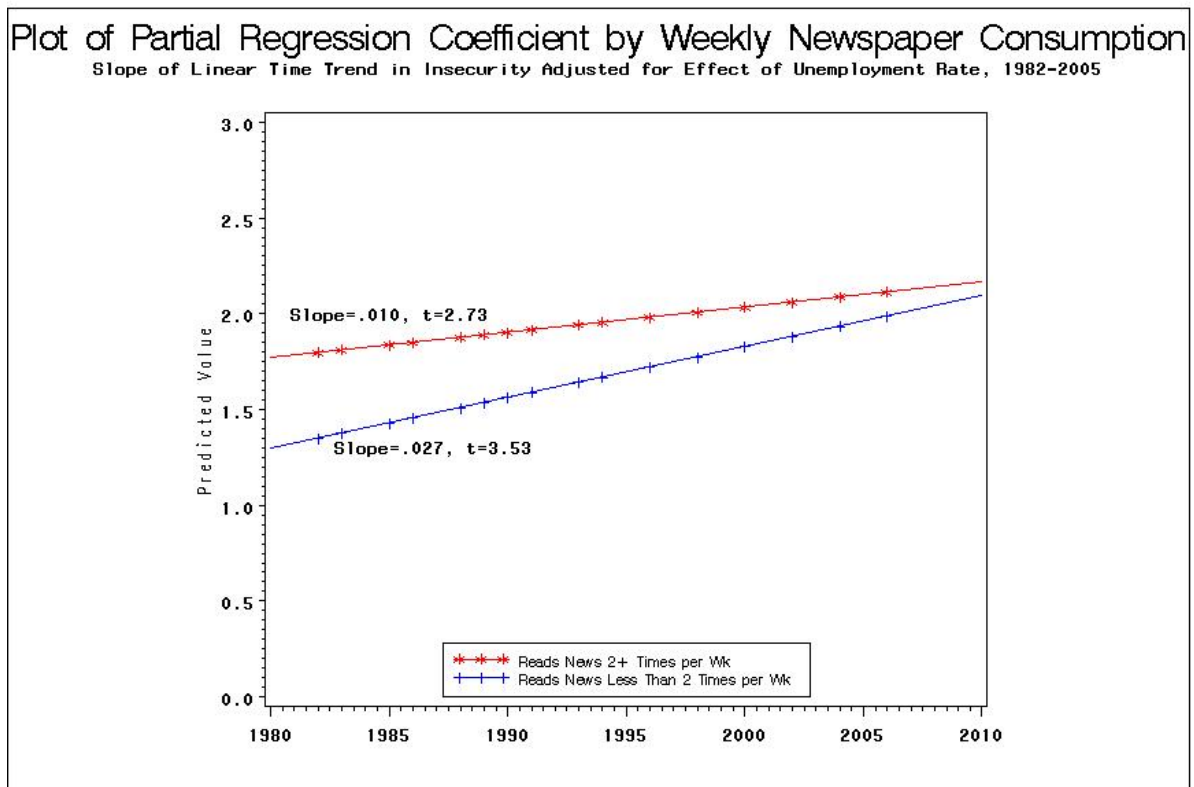
This figure shows that all viewer groups experienced an increase in job insecurity over this period – this is commensurate with the general growth in insecurity during this period. The increase was sharper among those who watched less television; in 1980, individuals watching no television had significantly lower levels of perceived insecurity. During this time series, television viewing time became a less accurate predictor of job insecurity. There are two likely explanations for this. First, sources of media proliferated during this period, lowering barriers to access of information on the economy as well as other topics. This proliferation of media increases the likelihood that a given worker has heard about economic changes, regardless of the number of hours of TV viewed. A second explanation for the declining use of TV viewing as a predictor of job insecurity

may be shrinking differences in the relationship between amount of TV viewership and job type. To the extent that hours of TV viewing is negatively associated with longer work hours (a characteristic associated with more secure employment) differences in perceived insecurity between TV viewing groups may be based in part on underlying differences in the security of work conditions. In 1980, jobs with longer hours had greater improvement in job stability relative to those with shorter, part-time schedules. By 2005, as I contend, the difference in insecurity between job groups had shrunk, limiting the associated effect of TV viewing hours.

A similar pattern is observed for newspaper consumption (Figure 6.25).

Individuals who

Figure 6.25



Note: the test-statistics presented in this figure are overinflated. For interpretation purposes, deflate the value of the test-statistic by a factor of 1.2.

read the newspaper two or more times per week have higher level of perceived job insecurity, though with slower of growth (slope = .01) than individuals who read the newspaper fewer than two times per week (slope = .027). In addition to the two explanations provided above for the decreasing strength of the relationship between newspaper reading and perceived job insecurity, the overall decline in the proportion of the population receiving their news on topics such as the well-being of the economy from newspapers decline substantially during this period.

Conclusion

This chapter explored trends in perceived job insecurity over the 25 year period between 1980 and 2005. The two job insecurity measures collected by the General Social Survey, likelihood of job loss and difficulty of job replaceability, provide good measures of respondents' perception of the vulnerability of their employment conditions. As illustrated in Figure 6.1, the average level of perceived likelihood of job loss and perceived difficulty with job replaceability tracked each other over this time series, though as Figure 6.2 shows, the correlation between the two declined in the latter half of the time series, beginning after 1993.

The analysis of middle class respondents (as defined by education and occupation levels) is a good illustration of the importance of unemployment rate in this analysis. Figure 6.6 shows that as a simple trend, perceived job insecurity held steady during the 25 time trend. However, after controlling for the unemployment rate in the partial

regression plot in Figure 6.7, an increase in perceived job insecurity is clearly evident for this population. This finding supports the change anticipated in Hypothesis 3a.

A similar analysis of working class respondents supports expected relationship described in Hypothesis 3b. As Figure 6.8 demonstrates, levels for perceived insecurity (the aggregate measure) increased between 1980 and 2005, after controlling for the unemployment rate. However, the rate of increase was slower (slope = .008) than that for middle class respondents (slope = .018). These findings are supportive of the literature on employment change during this period. Perceived insecurity is higher for working class than middle class respondents at the beginning of the time series; however the middle class experiences a surge in employment instability during the later years in the series, resulting in roughly equal levels of perceived employment insecurity by 2005.

Isolating the six most common occupations for analysis allowed greater insight into the relationship between occupational class and perceived insecurity. Hypothesis 3c anticipates a higher rate of increase in perceived insecurity among professional occupations than working class occupations; the results both support and contradict this hypothesis. Service (slope = .035) and clerical workers (slope = .039) had the greatest increase in job insecurity during this period (see Figure 6.9), deviating from the working class sample as a whole (slope = .008). Among the professional occupations examined, administrators/managers was the only occupational category with a substantial increase in job insecurity (slope = .029) in line with the full middle class sample (slope = .018) (see Figure 6.10). As noted previously, the increase in insecurity among administrators and managers is of particular interest since this group has traditionally enjoyed high levels of job security and compensation. Teachers (slope = .007) and professionals (slope = .006)

had nearly flat rates of growth between 1982 and 2006, breaking with the pattern of insecurity growth experienced by the middle class sample as a whole.

The analysis of working and middle class occupations is illustrative of one measurement issue present in the two GSS variables. After controlling for the unemployment rate, Figure 6.10 displayed higher initial levels of job insecurity for professional occupations. The most likely explanation for this is the greater difficulty in securing replacement positions for high prestige jobs. In comparisons of occupational ranking, responses to the two component questions are likely to diverge with working class respondents reporting higher likelihood of job loss but greater ease finding replacement work than middle class respondents.

One significant contribution of Chapter Six is the identification of the unemployment rate as a predictor of job insecurity. Initial analyses conflicted with the expected levels of job insecurity anticipated in Hypothesis 1 (see Figure 6.1). After further examination, I introduce the annual unemployment rate into the trend for these two variables via a partial regression plot. After adjusting for the unemployment rate, the overall trend for both the individual and aggregate perceived insecurity measures was reversed (see Figure 6.5), displaying an increase in perceived insecurity over time. Similarly, among within the demographic, occupational and attitudinal comparison analyses, the slope for perceived job insecurity, after controlling for the unemployment rate, was positive for all categories of respondents analyzed with the exception of individuals who attribute socioeconomic mobility solely to luck (as opposed to hard work or a combination of luck and work).

One interpretation of this change is that had the unemployment rate not fallen significantly during this period, other changes in employment conditions would have resulted in an increase in perceived insecurity during this period. The rate of unemployment is an important contextual factor affecting individuals' perceived job insecurity, and its positive, directional effect on job insecurity is consistent with arguments in the theoretical and empirical literatures which acknowledge the impact of macro-level factors on individuals' subjective sense of insecurity.

In response to this finding from the GSS analysis, I include the national, annual unemployment rate each analysis of the perceived insecurity measures, and an occupation-specific annual unemployment rate in the regression models discussed in Chapters 7 and 8. This improved specification will help account for macro-level conditions that may affect individuals' perceived job insecurity (the critical intermediary in the causal relationship between occupational characteristics and their spending behavior studied here) in two ways. First, levels of unemployment within occupational groups likely affect the degree of risk that workers believe they are exposed to. Second, the overall unemployment rate creates a societal-level emphasis on employment as secure or insecure. That is, in addition to whatever risk the individual assesses for them, they are also exposed to cultural messages that reinforce a sense of security or lack thereof.

In contrast the results for employment sector were not supportive of the respective hypothesis. Hypothesis 3d anticipated that, after controlling for the unemployment rate, government workers would have lower initial levels of perceived job insecurity, but faster growth during this time period. As Figure 6.11 illustrates, government workers had higher levels of perceived insecurity in the early years of the time series but were

surpassed by private sector employees who experienced substantial growth (slope = .027) during this time. It's notable that both groups experienced an overall increase in perceived insecurity, but the source of the higher initial levels of insecurity among government employees is unknown.

Figure 6.14 displays differences in perceived job insecurity across income groups. The findings here are consistent with the expected patterns in Hypothesis 3f. Household income is inversely related to perceived insecurity with the highest earning households having the lowest levels of perceived insecurity at all points in the time series. However, also consistent with Hypothesis 3f, the slopes for each income group varied such that the levels of perceived insecurity were less dispersed by 2005 than they had been in 1980. This is consistent with much of the theoretical literature arguing that employment uncertainty has become increasingly prevalent among those in higher earning occupations. Figure 6.14 is a clear illustration of the greater prevalence of job insecurity across members of different income classes.

The purpose of Chapter 6 is to partially describe the subjective context in which households make spending decisions. The results indicate that levels of perceived employment insecurity rose during the 25 years covered by this analysis, but only after accounting for the context of falling unemployment during that time. While notable differences in perceived insecurity were present among many of the characteristics examined in this chapter, it is important to note that this analysis is descriptive, the intention is not to attribute a causal relationship between variation in respondent or household characteristic and that respondent's level of perceived job insecurity. Many of the occupational, demographic and attitudinal characteristics are likely correlated with

each other and thus the variation in perceived insecurity is not independent of other factors.

Many of the findings outlined in this chapter were consistent with the theoretical and empirical literature which describes an expansion of employment insecurity to broader segments of the occupational and demographic landscape. This chapter lays a contextual foundation for analyses of the Consumer Expenditure Survey, presented in Chapters 7 and 8, which seek to determine how such occupational characteristics effected households' spending decisions across a similar time period, from 1981 to 2005.

CHAPTER SEVEN: DESCRIPTIVE ANALYSIS OF CONSUMER EXPENDITURE DATA

Introduction

This chapter presents descriptive and bivariate information on households' allocation of total expenditure to nine expenditure categories, as well as those households' occupational and demographic features. This chapter begins with standard descriptive statistics, including measures of central tendency and variance, for each of the predictor and outcome variables at each data collection point. It then examines the distribution of the independent and dependent variable expenditure categories, and reports on the distribution and variation in these measures. Of particular interest is the functional form of categories of expenditure allocation because the multiple regression analyses herein assume normal (or censored normal) errors.

Another goal of the descriptive analyses is to test two hypotheses that are central to this project - whether the proportion of the population experiencing occupational insecurity has increased over time, and whether the distribution of that insecurity across socio-economic characteristics has expanded during the study period. This hypothesis is central to this analysis because it is the expansion of insecurity that is arguably responsible for households' inclination to spend in a short-term manner. To assess any pattern in the proportion of households rated as occupationally insecure, I compare mean values and frequencies on a variety of socio-demographic characteristics such as household income, occupation and education level of the primary earner, household size and composition, housing tenure and the age, sex and race of the primary earner. These

values are used to determine whether the population of insecure households has become more diverse over time.

The nine expenditure categories evaluated in depth in Chapters 7 and 8 were chosen from among the Consumer Expenditure Survey's 23 primary categories. They include the proportion of total expenditure allocated to: *food at home, food away from home, education, entertainment, household equipment, personal care, utilities* and two aggregated expenditure categories, constructed for the purpose of this project, that are composed of expenditures identified as predominantly short or long-term oriented.

Categories included in the short-term group are *food away from home, apparel, entertainment, household equipment and other lodging (travel related lodging)*. These five categories were chosen for inclusion in the short-term expenditures measure by considering the propensity for items in that category to be purchased to meet short-term satisfaction as opposed to need. To be sure, this decision was a subjective one and thus the number of categories included is small in order to include only those that can most conservatively be considered short-term oriented. I also avoided expenditure categories that were likely to be substantially affected by other characteristics of the household such as housing tenure or urban/rural location.

Similarly, the six categories chosen for inclusion in the long-term expenditures variable were selected because the primary motivation for their purchase can reasonably be described as long-term concerns - that is, providing for the current and future well-being of household members. The six categories included in the long-term expenditures category are: *food at home, shelter, education, health care, personal insurance and life insurance*. In the regression models analyzed in Chapter 8, dependent expenditure

variables are calculated as the annual dollar amount spent in a given category, divided by the household's total annual spending. The two exceptions to this are the models of *food at home* and *food away from home*, in both cases, the variable is calculated as the amount spent in each category divided by total food spending.

Analysis of Dependent Variables

Calculation of Dependent Variable and Limitations of Alternate Forms

Although the Consumer Expenditure Survey (CEX) presents rich information on the spending behavior of U.S. households, there are several possible methods for calculating households' allocation of financial resources to spending categories. For the analyses described below, I choose to calculate each of the dependent variables as percentages of total spending rather than annual income. There are several reasons for this approach. First, the CEX attempts collection of household spending data for four consecutive quarters. This data is collected as spending levels (dollar amounts) and is aggregated into defined expenditure categories. As discussed in Chapter 5, I have summed quarterly spending to the annual level, and imputed values for households with fewer than four quarters of spending information (see p. 97). The most prominent limitation to using the *level* of spending in each category as the dependent variable is those variables' substantial income dependency. That is, income significantly affects differences in spending within given category, thus obscuring the effect of employment conditions. For example, professionals are likely to spend more on housing than transportation operators however, if spending level was used for the analysis, it would be unclear whether this was because of the greater income earned by professionals or

because they have placed a greater emphasis in their spending on housing than transportation operators.

An alternative approach to resolving this issue is to use income as a control variable in the equation thereby removing its influence on spending levels. However, this approach remains a poor measure of the central behavior in question; how the household chooses to allocate funds to different sources. Given limited financial resources, each spending action is a decision in support of one set of priorities over another. While some of these priorities are necessities (e.g. minimal levels of spending on food and housing), most involve some degree of prioritization by household members based on their perceived needs and wants. By examining how the household distributes finite resources (i.e. annual income) to different expenditure categories, I illustrate the process of households' prioritization, and thus the underlying values and concerns motivating them.

The remaining two options are to measure spending in each category as percentages of either *annual income* or *total spending*. There are several notable issues with using income as the denominator of a percentage measuring spending allocation. First, factors such as the abundant use of credit in the U.S. allow expenditures to exceed annual income for many individuals. For example, Table 7.1 presents the percent of households in the sample with expenditures in excess of earned, after-tax income.

Table 7.1: Annual Expenditure Relative to Income, by Year

	1981	1985 (dir, sig.)	1990 (dir, sig.)	1995 (dir, sig.)	2000 (dir, sig.)	2005 (dir, sig.)
% with annual expenditure greater than after-tax income	44.8	40.0 (-*)	43.3 (+*)	47.1 (+)	46.5 (-)	35.3 (-*)
% with annual expenditure greater than <u>125%</u> of after-tax income	28.4	25.8 (-*)	27.4 (+)	31.3 (+)	32.7 (+)	22.3 (-*)

For example, in 1981, almost 45% of respondents reported annual expenditures in excess of their total after-tax income.⁶ The level of expenditure in excess of after-tax income remained steady through 2000, at which point it declined to 35%. It is important to note that this late decline may be an artificial outcome of the CEX's imputation of income data that first appears here in the 2005 dataset.⁷ The percentage of respondents with expenditures exceeding 125% of earned income rose modestly between 1981 and 2000, while it experienced a similar decline in 2005. The percentage of households spending in excess of 125% of their income is significant because it indicates the number of households that are likely living beyond their means. While a given household may spend in excess of their income at a point in time by turning to savings, in most cases, spending over 125% of income requires families to assume significant debt, often in the form of credit. The percentage of households with expenditures greater than household income makes income highly problematic as a denominator when calculating the proportion spent in a given expenditure category.

Although a substantial percentage of the sample spent in excess of their income, on average, expenditures were lower than after-tax income. Figure 7.1 displays the distribution of the percentage of income expended for all years in this series (similar figures for 1981 and 2000 are presented in the appendix). The distribution is bimodal with an initial peak centering on the 0 – 100% portion of the distribution and a second,

⁶After-tax income is included here, as in later analyses, because it is a more accurate indicator of the funds available to the household for spending and because it removes the differential effect of taxes according to locality and employment conditions.

⁷ The CEX began imputing income data in 2002 in response to the high level of non-reported income information by respondents. While the process of imputation improves the quality of that data overall, it creates inconsistencies with data from prior years. It is unknown what effect this imputation will have on the resulting regression analyses. Although the imputation has increased the mean respondent income, it is unknown how missingness in prior years will affect the relationship between the independent and dependent variables.

left-skewed peak among respondents with expenditures exceeding 100% of their after-tax income.

Figure 7.1: Distribution of Expenditure Relative to Income (1981-2005)



This figure depicts both the large number of households that are spending beyond their income, as well as the near normal distribution of expenditure percentage for most respondents. Respondents spending in excess of their annual income rely either on credit or savings for some of their expenditures. While those spending in excess of 100% of their income are a minority of the sample, Figure 7.1 shows that a substantial number of households exceeded their income. For example, approximately 1700 households spent between 150-200% of their annual income while approximately 1100 spent in excess of 1000% of their income. In these cases, individuals have most likely made substantial outlays, such as for automobiles or a downpayment on housing, while others may be

living on prior savings. The high reliance on credit exhibited by a substantial minority of respondents confounds use of income as a denominator in measuring spending allocation.

A second limitation to using annual income as a divisor is that it does not account for the proportion of income allocated to savings. Dividing each expenditure category by total spending identifies how that household chose to allocate dollars to a particular expenditure category as opposed to other categories. This provides greater clarity about the choice to spend on that category of goods. However, if the divisor were total annual income, it would be difficult to distinguish the savings decision from the decision to allocate dollars to specific consumption categories.

Over-time relationship between income and total expenditure

To further explicate the relationship between income and expenditures over time, Table 7.2 shows the average household income before and after taxes for each year in the time series, as well as the average annualized expenditure and its proportion of after-tax income. This table includes the real income and spending amounts for each year, the yearly amount adjusted for inflation to 2005 dollars (in bold) and an indicator of whether year to year change was significant.

Table 7.2: Annual Household Income and Total Expenditure*

	1981	1985 (dir, sig.)	1990 (dir, sig.)	1995 (dir, sig.)	2000 (dir, sig.)	2005 (dir, sig.)
Mean annual household before-tax income (dollars)	21,424.17 47,234.03	28,141.44 50,859.05 (+*)	36,595.63 55,231.03 (+*)	35,313.70 52,119.38 (-*)	42,816.42 56,293.07 (+*)	61,889.77 (+*)
Mean annual household after-tax income (dollars)	18,664.99 41,169.57	25,403.46 45,909.30 (+*)	33,059.46 49,893.91 (+*)	32,261.94 47,300.83 (-*)	39,825.92 52,148.71 (+*)	58,836.75 (-*)
Mean annualized total expenditure (dollars)	17,922.72 39,532.96	21,712.64 39,239.27 (-)	30,104.75 45,434.89 (+*)	30,333.06 43,474.31 (-*)	36,084.18 45,261.68 (+*)	43,586.51 (-*)
Percent differential (expenditure/after-tax income)	96.02%	85.47%	91.06%	91.91%	86.79%	74.08%

* Note: Real dollars are presented in normal font while values adjusted to 2005 dollars are bolded.

As expected, before and after tax income and mean annual expenditure rose during the 24 year time series. In most years, mean expenditure is more than 90% of after-tax income, with that percentage dropping in 2005, most likely due to imputation of income data. In all years, the overwhelming majority of available income was expended, consistent with the low savings rate among the U.S. population (Weller, 2006). Given the falling savings rates discussed in the literature, it is surprising that 2000 and 2005 have some of the lowest levels of expenditure relative to income.

Examining household spending in each expenditure category as a proportion of total spending allows estimation of the effect of employment characteristics on households' prioritization of that category. That is, whether households with greater insecurity in their employment conditions choose to allocate a greater proportion of their expenditures to near-term oriented items such as apparel, entertainment, travel and

household goods or to longer-term oriented items such as housing, education, utilities and food.

Analysis of Households' Saving Behavior

Spending decisions involve not only allocations of money between different sets of consumer goods and services, but also, when possible, the decision to allocate earnings to savings or investment. Ideally, an examination of the savings decision would include a measure of the proportion of annual income allocated to savings in a given year.

However, the Consumer Expenditure Survey only records the *total* amount of money respondents report in several types of savings accounts as well as whether that amount is more, less or the same as held in those accounts during the previous year. Due to the lack of more detailed and well-targeted savings information, I utilize the ratio of households' total savings to their annual before-tax income in order to approximate their tendency to allocate income to savings rather than spending. A single percentage is calculated by dividing the total dollar amount of savings reported in four savings categories (savings accounts, checking accounts, bonds and securities) by the household's annual (before-tax) income.

This approach has strengths and weaknesses. One strength is that total savings provides a picture of a household's past economic behavior over time. For households that save, the dollar amount in savings will, in most cases, have been accumulated over a period of years. This historical view helps to smooth the effect of volatility in spending or saving behavior from year to year. There are also several potential weaknesses to this method stemming, in part, from the divisor - before tax income. Households that have

recently experienced either a sharp increase or decrease in income will have savings ratios that are disproportionately low or high, respectively. For example, a young adult who just completed college might have a very small savings, but a relatively high income after receiving a new job based on that college degree. In general, the ratio of total savings to income will better represent the savings behavior of older working adults who are less likely to experience income shocks and for whom, total savings represents saving behavior over a longer period of time.

As with most individual financial data, the reported savings variables used here suffer from high rates of missingness. Table 7.7 shows the number of respondents in each year with positive savings - the number for whom savings were recorded as \$0 and the number for whom all four savings categories were missing. The percent of respondents who are ‘savers’, that is, those with savings greater than \$0, was fairly consistent between 1981-1995 ranging from 63.6 – 67.8%. In 2000 and 2005, the percent reporting savings fell to 53.8 and 51.3, respectively.

Table 7.3: Number of Respondents with Savings and Missing Savings Data

	1981	1985	1990	1995	2000	2005
Respondents with savings > 5% of after-tax income	1163 (38.3%)	1480 (42.0%)	1538 (42.8%)	1466 (32.2%)	1850 (28.4%)	915 (18.1%)
Respondents with savings > \$0	1934 (63.6%)	2279 (64.7%)	2426 (67.8%)	2896 (63.6%)	3510 (53.8%)	2596 (51.3%)
Respondents with savings = \$0 ¹	438 (14.4%)	537 (15.2%)	562 (15.7%)	860 (18.9%)	1482 (22.7%)	1107 (21.9%)
Respondents with all savings categories = missing ²	668 (22.0%)	707 (20.1%)	602 (16.8%)	795 (17.5%)	1532 (23.5%)	1407 (27.8%)
Total	3040	3523	3590	4551	6524	5060

¹ Respondents are listed as having \$0 in savings if at least one of the four savings categories equaled \$0 while all others were missing.

² Respondents are listed with missing savings if all four savings categories have missing values.

As this table shows, a substantial minority of the sample did not report savings information for any of the four savings categories. The two primary reasons for this missing data are 1) refusal to provide financial information and 2) failure to complete the fifth round of interviews. Savings information was asked during the second and fifth interview quarters, for these analyses, I use fifth quarter information.

Table 7.4 below, shows the mean savings ratio (proportion of before-tax income) as well as the mean level of savings. As this table shows, the ratio of total savings to income varied during the first four years of the data series from a high of .68 in 1981 to a low of .36 in 1990.

Table 7.4: Savings and Ratio of Savings to Income for All Respondents and Savers

	1981	1985	1990	1995	2000	2005
All Respondents	Mean (Std Dev)	Mean (Std Dev)	Mean (Std Dev)	Mean (Std Dev)	Mean (Std Dev)	Mean (Std Dev)
Ratio of Total Savings to Before Tax Income	.68 (9.94)	.46 (2.69) (-*)	.36 (1.58) (-)	.61 (3.37) (+*)	1.54 (12.31) (+*)	.82 (6.49) (-*)
Total Savings (sum of checking, savings, securities and bonds)	5,922 (14,802)	10,325 (26,618) (+*)	12,483 (29,501) (+*)	15,228 (34,650) (+*)	48,751 (206,326) (+*)	42,477 (198,352) (-*)
Respondents with Savings	Mean (Std Dev)	Mean (Std Dev)	Mean (Std Dev)	Mean (Std Dev)	Mean (Std Dev)	Mean (Std Dev)
Ratio of Total Savings to Before Tax Income	.83 (11.00)	.57 (2.97) (-)	.44 (1.75) (-)	.79 (3.82) (+*)	2.19 (14.63) (+*)	1.18 (7.75) (-*)
Total Savings (sum of checking, savings, securities and bonds)	7,263 (16,094)	12,758 (29,060) (+*)	15,375 (32,055) (+*)	19,750 (38,314) (+*)	69,334 (243,150) (+*)	60,947 (235,225) (-*)

Note: Prior to 2000, savings variables were top-coded at \$100,000. Beginning in 2000, these top-codes were removed. This sharply affects the mean and standard deviation for these scores.

This table illustrates the very low level of savings present in most households.

Since the ratios displayed compare the household's total savings to their annual income,

the amount of savings (generally less than 1%) can be viewed as quite paltry. An important note is that the means for 2000 and 2005 should be interpreted separately from earlier years. Prior to 2000, savings variables were top-coded above \$100,000, thereby artificially deflating the savings rate, in 2000 and 2005 these top-coding levels were removed. The year 2000 shows a sharp increase in the mean savings ratio with a decline in 2005 – most likely due to the imputation of income data in that year. As a point of comparison, Table 7.4 also displays the mean savings ratio and savings levels for a restricted sample of ‘savers’. This removes households with zero dollars in reported savings in each year. Naturally, these results reveal a higher level of savings, though the year to year pattern remains.

The analysis of household savings is an important counterpoint to the examination of expenditures provided by the primary analyses. The focus of those primary, expenditure analyses is to understand how indicators of micro-level economic insecurity effect the household’s allocation of their financial resources to short and long-term oriented expenditures. However, these expenditure decisions are only one side of the income allocation coin. The other side is composed of the household’s savings decisions, that is, the decision to retain income for future use. I argue that the decision to spend is highly influenced by long-term considerations due to its nature as a method of planning for future contingencies. The decision to save also has a secondary long-term benefit. Many purchases which have been previously described as long-term oriented (e.g. housing, education, automobiles and medical expenses) require a substantial outlay if money. While in most cases, each of these purchases is accompanied by the use of credit, households often supplement that credit with a ‘down payment’ of some amount.

Thus, savings is in some ways a preparatory step toward making long-term expenditures. This is contrasted with many short-term oriented expenditures such as apparel, entertainment and household goods which are relatively small expenditures (here travel is an exception) and generally do not require the advance planning necessitated by savings. To more fully understand how economic insecurity effects the allocation of income to short and long term goals, the rate of savings is an important measure of the long-term orientation.

Dependent Variables – Calculation of Expenditure Percentages

Table 7.5 displays descriptive statistics for each expenditure category. In this table, I display descriptive information for all expenditure categories included in the CEX for informational purposes. The categories utilized in this analysis (either independently or as part of the short or long term aggregate measures) are shaded in grey. The total sample size for all six years of data was 24,182 households. It should be noted that a few expenditure variables were not collected in all years resulting in lower sample sizes for those variables. Most significant of these are food at home (groceries) and food away from home (food prepared outside the home). While food expenditures were collected during all CEX collection years, food at home was first collected as a separate variable in 1985, while food eaten away from home was not collected until 1990. In the table below, and elsewhere, food away from home and food at home are calculated as a proportion of total food spending rather than as a proportion of total spending as is the case with the other categories.

Calculating food spending at home and away from home as proportions of food spending, rather than total expenditure, allows for a closer examination of the short or long-term orientation of the households' spending behavior. Since food consumption, and thus spending, is a necessity for households that are not receiving government food assistance, the decision about where to spend those food dollars provides a clearer picture of the short-term, long-term decision than many of the expenditure categories in the CEX. In most households, there is no set allotment of food dollars to be allocated. Instead, the family must meet the nutritional needs of household members. For each meal, a decision is made to procure groceries (food at home) which, in most circumstances, requires fewer food dollars, and often greater nutritive value, allowing remaining funds to be spent elsewhere. Alternatively, household members may choose to consume food prepared outside the home, either at a restaurant or prepared food brought into the home. This decision results in greater convenience for the family and often a degree of entertainment value however, it also generally results in the spending of a greater number of food dollars in order to meet the family's nutritional needs. By isolating the analysis of food at home and food away from home within the larger category of total food expenditure (as opposed to total expenditure), I am able to more closely observe spending behaviors associated with short-term and long-term financial orientations.

Dependent Variables – Descriptive Statistics

In Table 7.5, descriptive values are presented separately for all respondents and for respondents with spending in each category. This separation more clearly

distinguishes between categories by removing the effect of variation in the frequency with which spending was reported in each category.

Table 7.5: Descriptive Statistics for Expenditure Proportion

Expenditure Category	All Respondents				Respondents with Nonzero Spending in Respective Category			
	N	Mean	Std. Dev.	Max Value	N	Mean	Std. Dev.	Max Value
Short-term oriented exp.	21736	18.89	10.19	93.73	21702	18.92	10.17	93.73
Long-term oriented exp.	21736	43.20	16.24	100	21732	43.21	16.24	100
Food	21717	17.23	8.12	99.1	21717	17.23	8.12	99.1
Food away from home	11570	26.19	18.10	100.0	11102	27.30	17.7	100
Food at home	18195	72.95	18.81	100.0	18122	73.24	18.3	100
Alcoholic beverages	21736	1.35	2.54	56.6	15619	1.88	2.8	56.7
Shelter	21736	19.93	11.70	91.5	21327	20.32	11.5	91.5
Owned dwellings only	21736	10.10	11.77	80.6	13344	16.46	11.0	80.6
Rented dwellings only	21736	8.73	13.09	91.5	8596	22.09	11.8	91.5
Utilities	21736	7.81	4.79	47.8	21470	7.92	4.7	47.8
Household equipment	21736	3.31	4.36	64.1	19101	3.77	4.5	64.2
Household operations	21736	1.38	2.89	64.6	14867	2.02	3.3	64.7
Education	21736	1.78	6.03	88.0	8513	4.54	8.95	88.0
Apparel	21736	4.84	4.25	73.0	21215	4.96	4.2	73.1
Cash contributions	21736	0.87	2.69	67.9	10557	1.80	3.6	67.9
Entertainment	21736	4.97	4.70	84.6	21135	5.12	4.7	84.6
Automobile fuel/oil	21736	4.93	3.89	56.4	20763	5.16	3.8	56.4
Health care	21736	4.36	5.09	73.0	19084	4.97	5.2	73.0
Transportation	21736	18.38	13.74	91.6	21499	18.59	13.7	91.6
Other vehicles	21736	2.82	4.41	69.8	9549	6.42	4.6	69.8
Public transportation	21736	1.12	2.36	73.5	10178	2.39	3.0	73.6
Life insurance	21736	1.12	2.05	52.8	11927	2.05	2.4	52.9
Miscellaneous	21736	1.21	3.07	84.6	17380	1.52	3.4	84.6
Personal care	21736	0.90	0.96	19.5	19283	1.02	.96	19.5
Tobacco products	21736	1.19	2.18	47.9	9633	2.70	2.6	47.9

The following discussion of Table 7.5 provides more detailed information. As expected, a comparison of mean levels between the all respondent and ‘spender only’ columns reveals higher mean levels after non-spenders (those with a value of \$0 in a given category) are removed. However, in most categories this increase is relatively modest. Exceptions to this are spending on owned and rented dwellings due to the high number of respondents in only one of these categories as well as education expenses which are likely skewed by a relatively small number of households with large expenditures on private schooling and post-secondary education.

Expenditure categories fell loosely into three broad groups; necessity-motivated categories composing the largest proportion of mean expenditure including food (17.2%), food at home (72.9% of total food), food away from home (26.2% of total food), shelter (19.9%), transportation (18.4%) and utilities (7.8%). A group of middle range categories such as apparel (4.8%), entertainment (4.9%), fuel/oil (4.9%), household equipment (3.3%) and health care (4.3%) that while including a necessity component in their use (i.e. at least some money must be spent on clothing), are in many cases, driven heavily by recreational impulses (health care being a significant exception). Finally, a third category of smaller expenditures are made up primarily of items that are acquired either infrequently or by only a small portion of the population; for example, education (1.8%), alcoholic beverages (1.4%), household operations (1.4%), cash contributions (0.9%), public transportation (1.1%), tobacco products (1.2%) and personal care (.9%) .

An important caveat when interpreting this descriptive information is that many spending categories had a relatively high number of zeros or an absence of reported spending for that collection period, skewing the mean proportion of spending downward.

For example, the figures presented in Table 7.6 below, contain the number of total respondents, owners and renters reporting no spending in that category across all six years. Data is presented separately for owners and renters due to known differences in consumption patterns according to housing tenure (Bureau of Labor Statistics, 2012).

Table 7.6: Percent of Households with No Spending in Expenditure Categories for All Households and Primary-Renter, Primary-Owner Households

Category	% of cases with no spending			Category	% of cases with no spending		
	All	Renters	Owners		All	Renters	Owners
Food	0	0	0	Cash contributions	51.4	66.3	40.4
Food away from home	2.2	3.1	1.6	Entertainment	2.8	4.4	1.5
Food at home	.34	.28	.08	Automobile fuel/oil	4.5	8.8	1.1
Alcoholic beverages	28.1	30.4	26.1	Health care	12.2	20.5	4.9
Shelter	1.9	0	0	Transportation	1.1	1.8	.29
Owned dwellings	38.6	95.4	0	Other vehicles	56.1	57.	55.3
Rented dwellings	60.5	0	96.2	Public transportation	53.2	53.8	52.7
Utilities	1.2	1.4	.08	Life insurance	45.1	62.8	31.9
Household equipment	12.1	17.1	8.1	Miscellaneous	20.0	29.1	12.6
Household operations	31.6	42.2	23.6	Personal care	11.3	16.3	7.41
Education	60.8	67.2	58.1	Tobacco products	55.7	51.9	57.0
Apparel	2.4	2.6	2.1				

Note: Table presents the number of households with no annual spending in that category. The total sample size across all six years is 24,182.

As this table indicates, substantial variation exists in the number of households reporting no spending in each category. Categories such as cash contributions, other vehicles and tobacco products have, as expected, a higher frequency of no spending - in some cases

exceeding 60% of respondents. Only a very small proportion, 1.9% of the sample, reported no spending on their primary dwelling. The categories with the lowest rate of no reported spending was food, for which 100% of households reported some spending. Spending on food *away* from home was less frequent (5.2%) than food consumed *at* home (0.3%). Comparison of the presence of spending between owners and renters reveals that owners were more likely to have spending in virtually all categories. This disparity is especially noticeable for health care and life insurance. While the absence of spending on life insurance is consistent with the generally lower income, lower average age and poorer job benefits among the renting population, the same characteristics make the relative absence of health care spending surprising. Given the higher propensity for jobs without health benefits among households with lower income (often renters), one initially expects the renting population to expend more money out of pocket on health care. The finding that health care spending is more common among home owners may be due to a number of factors that are not tested here. These factors include the lower average age of renters, greater use of public health services by renters in the sample and the possibility of greater underreporting of health expenditures by renters in the sample, a pattern that is consistent with known differences in survey reporting by respondents' education and income levels.

Finally, the distribution of each dependent expenditure variable was examined using probability plots. This examination revealed substantially skewed distributions for most expenditure categories. Specifically, food away from home, entertainment, household equipment, personal care and utilities were each substantially right skewed and narrowly distributed. Food at home was also right-skewed, although the distribution was

broader as indicated by a smaller skewness statistic (.97) and substantially larger standard deviation (18.1). The only dependant variable that was left-skewed was education which had a skewness statistic of -1.0. Education was also broadly distributed (Std. Dev = 18.8). In response to the substantial skew present in these variables, I perform a log transformation prior to conducting regression analyses. This transformation and the resulting interpretation of findings are discussed in Chapter 8.

Dependent Variables – Over-time Comparison, 1981-2005

Table 7.7 displays descriptive statistics for expenditure categories over time. Those categories included in the regression analyses below are shaded in grey. To compare mean rates of spending over time, values are presented for each of the six years of data. All expenditures are calculated as proportions of total spending with the exception of *food away from home* and *food at home* which are calculated as proportions of total *food* spending. Table 7.7 also presents the results of tests of change between sequential survey years. Columns between each year of data indicate whether there was a statistically significant positive or negative change in spending in each category between those survey years. When the change in proportion spent was significant, an asterisk follows the plus or minus (* = significant at .05 level).

Table 7.7 Descriptive Statistics for Expenditure Dependent Variables

Variable	1981 N = 3040				'81-'85 Change	1985 N = 3523				'85-'90 Change	1990 N = 3590			
	Mean	Std. Dev.	Min Value	Max Value		Mean	Std. Dev.	Min Value	Max Value		Mean	Std. Dev.	Min Value	Max Value
Short-term	23.7	12.18	0	87.1	+	19.7	10.62	0	87.60	-	22.3	10.6	.07	93.5
Long-term	44.4	14.74	.31	100.0	-	28.2	13.63	0	88.59	+	47.3	13.9	2.46	100.0
Food	20.7	9.1	1	99.1	-	18.1	8.1	0.8	80.6	-	17.3	7.5	2.8	83.6
Food away	26.9	20.75	0	100	.	.	.	.	.	.	27.7	18.5	0	100
Food at home	73.1	20.8	0	100	.	.	.	.	.	.	72.3	18.5	0	100
Alcohol	2.2	3.3	0	53.2	-	1.9	3.1	0	40.1	-	1.2	2.4	0	49.3
Shelter	16.2	10.2	0	76.9	+	19.7	12.1	0	80.3	-	19.5	11	0	78.9
Owned Dwellings	7.8	9.8	0	55.3	+	9.2	11.7	0	69.6	+	9.6	11.2	0	60.5
Rented Dwellings	7.4	11	0	76.9	+	8.9	13.1	0	80.3	-	8.4	12.3	0	78.9
Utilities	7.4	4.5	0	38.9	+	8.4	5.3	0	47.8	-	7.5	4.5	0	44.4
Household	3.7	4.6	0	64.2	.	3.7	4.6	0	57.1	-	3.4	4.3	0	50.1
Household	1.1	2.6	0	39.7	+	1.4	3	0	42.6	.	1.4	3.1	0	36.1
Education	1.8	5.8	0	81.7	-	2.1	7.0	0	87.8	+	1.6	5.7	0	69.9
Apparel	5.8	4.4	0	50.1	+	6	5	0	73.1	-	5.4	4.2	0	60.1
Cash contributions	0.6	1.8	0	31.8	-	0.3	1.4	0	34.6	+	0.6	1.9	0	41.7
Entertainment	4.6	4.3	0	55.5	+	5.3	5.5	0	73.4	-	5	4.6	0	64.5
Gas/oil	7.7	5.1	0	49.5	-	5.9	4.3	0	56.4	-	4.3	3.1	0	39.3
Health care	3.5	3.9	0	56.8	+	4.1	4.9	0	73	+	4.3	4.9	0	54.1
Transport.	19.6	12.6	0	82	+	20.2	14.3	0	91.6	-	17.9	12.9	0	91.2
Other vehicles	5.3	4.1	0	58.7	+	5.9	4.7	0	37.5	+	6.5	4.9	0	69.8
Public transport	1.3	2.5	0	31.3	.	1.3	2.8	0	73.6	-	1	2.2	0	21.6
Life insurance	1.5	2.3	0	32.6	-	1.3	2	0	28.5	-	1.2	2.1	0	45.6
Miscellaneous	1.3	3.2	0	50.4	-	1.2	2.8	0	43.1	-	1.1	2.3	0	37.2
Personal insurance	8.6	5.5	0	85	-	4.5	4.9	0	39.2	+	10.9	7.1	0	78.9
Personal care	0.9	1	0	17	+	1	1	0	12.7	+	1	0.9	0	7.6
Tobacco products	1.3	1.8	0	16.7	+	1.4	2.1	0	24	-	1.3	2.3	0	47.9

Table 7.7 continued

Variable	1995 N = 3527				1990- 2000 Change	2000 N = 6524				2000- 2005 Change	2005 N = 5060			
	Mean	Std. Dev.	Min Value	Max Value		Mean	Std. Dev.	Min Value	Max Value		Mean	Std. Dev.	Min Value	Max Value
Short-term Oriented	20.4	10.3	0	90.0	-	19.7	10.4	0	93.7	-*	16.3	10.1	0	89.7
Long-term Oriented	48.5	14.5	0	97.4	+*	48.9	15.2	0	100.0	-*	38.7	14.5	.46	94.7
Food	17.8	8.5	0.4	73.6	-*	17	8.3	1.3	96.6	-*	16.1	8.4	0.7	88.6
Food away	24	18	0	100	+	24.7	18.4	0	100	-*	22.6	18.2	0	100
Food at home	75.4	18.3	0	100	-	74.7	18.6	0	100	+*	76.8	18.6	0	100
Alcohol	1	2.1	0	39.6	-*	0.8	1.7	0	26	-	0.8	2	0	56.7
Shelter	20.5	12.2	0	86.2	+*	22.1	14	0	95.4	-*	21.7	13.5	0	92.1
Owned dwellings	10.2	11.6	0	75.6	+*	12	13.3	0	80.6	-*	11.9	12.6	0	84.5
Rented dwellings	9.5	14.3	0	86.1	-	9.1	15.1	0	95.4		9.1	15.4	0	92.1
Utilities	8.8	5.7	0	51.1	-*	8.3	5.9	0	51.6	+*	9.2	6.1	0	74.5
Household equip.	3.2	4.3	0	47	+	3.2	4.1	0	37.5	-*	2.5	4.2	0	50.7
Household oper.	1.4	3.4	0	68.2	+*	1.5	3.7	0	79.6	+*	1.5	3	0	69.3
Education	1.6	5.6	0	74	-	1.7	5.7	0	88.0	-	1.9	6.9	0	79.4
Apparel	3.8	3.7	0	48.6	+*	3.8	4.2	0	47.3	-*	3	3.8	0	63.2
Cash contributions	0.7	2.6	0	64.4	-	0	0	0	0	+*	3	5.9	0	73.9
Entertainment	4.8	4.5	0	70.5	+	4.8	5.3	0	74.8	-*	4.6	4.6	0	90.1
Gas/oil	3.6	2.9	0	51.1	-	3.6	3.3	0	67.3	+*	4.7	3.8	0	53
Health care	6.3	7.4	0	72.1	+	6.5	7.8	0	80.2	-	6.4	7.5	0	69.3
Transportation	16.6	13.7	0	88.6	+	17.2	15.5	0	90.8	-*	15.7	13.7	0	91.6
Other vehicles	0	0.9	0	31.2	+	0.1	1.4	0	47.8		0.1	1.8	0	57.1
Public transport	1.2	2.4	0	38.3	-	1.1	3	0	41.2	-*	0.9	2.3	0	40.5
Life insurance	1.2	2.4	0	55.2	-*	1.1	2.4	0	45.8	-*	0.8	1.8	0	31.3
Miscellaneous	1.3	3.4	0	48.6	-	1.3	3.8	0	68.2	-	1.2	3.9	0	84.6
Personal insurance	9.1	8.1	0	61.5	+	23.4	28.8	0	653.8		.	.	.	.

Personal care	1	1	0	11.6		1	1.3	0	30.3	-	0.7	0.9	0	12.4
Tobacco products	1.1	2.3	0	51.9	+	1.2	2.7	0	30.9	-*	1	2.5	0	35.1

Expenditures that consistently contributed the largest proportion to total spending were *food, shelter, owned and rented dwellings, utilities, transportation* and *personal insurance*. Over the 24 year time period from 1981 – 2005, food expenditures fell from 20.7% to 16.1% of total spending. Conversely, spending on shelter grew substantially from 16.2% of spending in 1981 to 21.7% in 2005. While education, entertainment, household operations and household equipment spending were fairly flat during this time-period, out-of-pocket spending on health care rose from 3.5% to 6.4% of total spending and spending on utilities rose from 7.4% to 9.2%. Allocation of spending fell in several other categories including alcohol (2.2% to 0.8%), apparel (5.8% to 3.0%) and tobacco (1.3% to 1.0%). Tobacco products are a good example of the limitations of examining mean spending across a large and diverse sample. While spending on tobacco averaged only 1% of total household spending, this amount is skewed downward by the large proportion of households with no tobacco spending (59%). Households that did consume tobacco products allocated 2.7% of their total expenditure to those purchases.

Change in spending between survey years was inconsistent with expected trends on two fronts. First, significant increases in a given category were more likely to occur during the earliest years of the time series (1981 and 1985) than during subsequent years. Second, there was a larger increase in the proportion spent on categories more closely linked to household needs notably: housing, utilities and healthcare (long-term) than on low-need (short-term oriented) goods such as alcohol, tobacco, household equipment, apparel and entertainment. Other categories such as life insurance and education also saw significant declines in most years. One factor to consider in interpreting these findings is that, since all categories are proportions of total *spending* rather than

household income or wealth, the level of inflation-adjusted spending in a category could increase, while the proportion allocated to that category relative to total spending declined. Given the higher rate of spending noted in Table 7.7 above, this is occurring in many spending categories. This finding reflects one of the limitations, discussed earlier, to utilizing total spending as a denominator rather than either the percentage of total household income or real expenditure levels. Another factor that is likely contributing to the pattern of increase in long-term spending during this time series is the rising cost of several components in the long term measure. Specifically, housing and out of pocket health care costs have risen dramatically over the last three decades which surely contributes to the portion of total spending allocated to those goods.

Dependent Variables – Bivariate associations between expenditure categories

Appendix B presents results from correlations of the nine expenditure categories that are the focus of these analyses, as well total expenditure. This table indicates that total expenditure is associated with a modest increase in the proportion spent on short term goods (.06) and a moderate decrease in the proportion of that total expenditure allocated to long term goods (-.11). That is, as total household spending rises, a greater proportion of spending is directed to short term goods. This result reinforces literature which has found that rising income allows households to spend beyond their basic needs to include a larger share of short-term or low-need goods. This pattern was reinforced by positive correlations between total expenditure and the categories food away from home, entertainment and household equipment although the relationship with the last two was small (though significant).

A moderately strong ($r = -.34$), negative correlation between the short-term and long-term aggregate categories suggests that they are appropriately constructed to represent opposing expenditure typologies. As one would expect, given their calculation, most of the single category expenditures are positively correlated with the aggregate, short-term and long-term measures, however, there was one unexpected finding. Although proportion allocated to education is a component of the long-term expenditure categories, it was negatively correlated with long-term expenditures and food at home (another long-term component). This is particularly unexpected because on a conceptual level, education spending is one of the clearest measures of long-term orientation; while some spending is mandated by ancillary costs associated with elementary and secondary education, allocating larger proportions of total spending to education is indicative of a commitment to the long term benefits of education. In general, spending on education composed a small percentage of households' total expenditure. 61% of households in the sample had no spending on education. Among households with spending, the average dollar amount spent for the observed year was \$563, or 1.8% of total spending. This relatively low proportion allocated to education is related, in part, to the broad definition of educational expenditures in the CEX. In addition to higher cost items such as tuition, it includes purchases such as books and school uniforms. Within the multivariate analyses presented later in this chapter, the inclusion of the primary earner's age and family size will help to account for variation in spending due to factors exogenous to households' long or short term orientation such as the presence or absence of children.

Lastly, spending on personal care and utilities; categories chosen to represent expenditures that are not clearly associated with short or long-term oriented spending,

had an inverse relationship with total expenditure. Thus, as total spending increased, the amount that households in this sample spent on personal care and utilities decreased. Personal care was positively correlated with short-term spending, while spending on utilities was positively correlated with long-term spending.

Analysis of Independent Variables

Independent Variables - Selection and definition of occupational characteristic measures

A household's degree of economic security is highly dependent upon, among other factors, the employment conditions of its earners. While the Consumer Expenditure Survey provides extensive detail on the spending patterns of U.S. households, it collects limited information on the occupational characteristics of its members. This study incorporates the available measures: earners' primary occupation, employment sector and average time worked to serve as adequate micro-level indicators of households' economic security.

To identify occupational characteristics with the best ability to predict households' level of job insecurity, I employ data on the primary earner's employment conditions. Given the nominal character of occupation and sector, there is no straightforward way to collapse employment information about multiple earners into a single measure. Since it is reasonable to assume that the household's economic security is most dependent on the income of the earner contributing the largest amount to the household's earnings (hereafter called the primary earner), I focus primarily on that individual's characteristics. This dependency is enhanced as the number of earners in the household declines (note: households with no earners in the survey year have been

removed from this analysis). In households with one earner, job loss of that earner strips the household of earned income and, in some cases, health coverage and other benefits.

Table 7.8 displays the distribution in the number of income earners for each of the six data years.

Table 7.8: Number of Household Earners by Year⁸

Number of earners	1981 N (%)	1985 N (%)	1990 N (%)	1995 N (%)	2000 N (%)	2005 N (%)
1	1381 (45.4)	1644 (46.7)	1470 (40.9)	1551 (43.9)	2247 (44.1)	1571 (53.0)
2	1206 (39.7)	1394 (39.6)	1564 (43.6)	1444 (40.9)	2063 (40.5)	1025 (34.6)
3	295 (9.7)	323 (9.2)	369 (10.3)	317 (8.9)	456 (8.9)	205 (6.9)
4	112 (3.7)	117 (3.3)	108 (3.0)	110 (3.1)	169 (3.3)	66 (2.2)
5	45 (1.5)	45 (1.3)	31 (0.9)	34 (1.0)	36 (0.7)	13 (0.4)
	Mean	Mean (dir, sig)	Mean (dir, sig)	Mean (dir, sig)	Mean (dir, sig)	Mean (dir, sig)
Mean	1.76	1.72 (-)	1.75 (+)	1.70 (-*)	1.68 (-)	1.54 (-*)

Even among multi-earner households, the primary earner is more likely to be a full-time employee than the secondary earner, and thus more likely to be the source of health and other benefits to the household. Household adults are likely aware of their greater reliance on the primary earner's employment and thus to partially base financial decisions on their assessment of the stability of those resources.

⁸ In Table 7.8, as elsewhere in this chapter, tests of significance have been performed to evaluate whether year by year differences are statistically significant. In each table, the results of those tests are represented by '(dir, sig)' in the header. The respective statistic is then followed by a '+' or '-', depending on the direction of change over time, and a '*' if the change is significant at the .05 level.

Independent Variables – Descriptive statistics

The four occupational characteristics available in the CEX are: occupational category, employment sector, the number of hours worked in a typical week and the number of weeks worked in the last year. Descriptive information on these variables is located in Table 7.9.

Table 7.9 Primary Earner’s Occupational Characteristics

Variable	Value	1981 N=3040	1985 N=3523	1990 N=3590	1995 N=4551	2000 N=6524	2005 N=5060
		N (Col %)	N (Col %)	N (Col %)	N (Col %)	N (Col %)	N (Col %)
Occupation	Manager/ Professional	801 (26.4)	953 (27.0)	1070 (29.8)	1081 (30.7)	1677 (32.9)	958 (32.3)
	Technical/ Sales/Admin	867 (28.5)	906 (25.7)	883 (24.6)	880 (25.0)	1223 (24.0)	729 (24.6)
	Service	311 (10.2)	377 (10.7)	356 (9.9)	406 (11.5)	630 (12.3)	433 (14.6)
	Farming/ Forestry	37 (1.2)	54 (1.53)	50 (1.4)	34 (.96)	54 (1.1)	28 (.94)
	Production/ Craft/Repair	406 (13.4)	312 (8.9)	284 (7.9)	278 (7.9)	329 (6.5)	147 (4.9)
	Operators/ Laborers	586 (19.3)	581 (16.5)	556 (15.5)	539 (15.3)	751 (14.7)	348 (11.7)
	Armed Forces	13 (.4)	29 (.8)	25 (.7)	41 (1.2)	36 (.71)	35 (1.2)
	Self- Employed	18 (.6)	311 (8.7)	352 (9.8)	268 (7.6)	394 (7.7)	285 (9.6)
	Sector	Private	2379 (78.3)	2609 (74.1)	2588 (72.2)	2599 (74.2)	3735 (74.5)	2919 (73.2)
Government		580 (19.0)	598 (17.0)	639 (17.8)	599 (17.1)	812 (16.2)	677 (16.9)
Self-employed		81 (2.7)	313 (8.9)	360 (10.0)	303 (8.7)	468 (9.3)	393 (9.9)
Variable	Unit	Mean (Std Dev)	Mean (Std Dev)	Mean (Std Dev)	Mean (Std Dev)	Mean (Std Dev)	Mean (Std Dev)
Hours per Week	Hours	41.1 (10.81)	41.36 (11.48)	42.51 (11.75)	41.72 (12.06)	41.76 (12.14)	41.29 (12.19)
Weeks Per Year	Weeks	46.15 (11.64)	46.26 (12.21)	47.03 (11.46)	45.83 (13.56)	45.86 (13.73)	45.32 (14.22)

In the 1981 data, respondent occupation is classified into eight categories. While later years included a larger number of categories, occupations in these later years are collapsed into the eight present in 1981 in order to maintain continuity. This occupational classification is based on Bureau of Labor Statistics' Universal Occupational Codes and reflects the type of work performed by the respondent regardless of employment sector or industry. The majority of respondents to the survey consistently fell into two occupational categories; managers/professionals and technical/sales/administrative workers. On average, respondents in the managerial/professional and armed forces categories are expected to have greater job security than those in occupational groups dominated by manufacturing work (e.g. production/craft work/repair) or service positions.

The sector variable collected by the CEX categorizes respondents as employed in the private sector, federal government, local government (including state) or as self-employed. For the purpose of these analyses, I group all government workers together creating three dummy variables for private, government and self-employment. As government employment has historically been associated with greater stability and lower risk of job loss than either the private sector or self-employment, it is expected that government employment will have a positive relationship with both long-term oriented spending and with relative savings.

The final two measures of job security are the number of hours worked by the primary earner in a typical week and the primary earner's total number of working weeks last year. Workers with higher job insecurity are more likely to reduced work schedules, and to experience periods of unemployment resulting in fewer weeks worked annually.

One confounding issue with the weeks-worked variable is full-time workers whose work schedule dictates greater than normal amounts of time off from work. The most familiar of these are educators, who typically have high levels of job security but often work a nine-month work schedule in which summer months are off. These individuals will have similar values on the weeks-worked variable as contingent workers who have an involuntary shortage of work-weeks. To determine the extent of this issue, the correlation between weeks worked and the primary earner's occupational category and income are examined in the next section to better determine which households have a reduced number of weeks-worked.

Over the time series covered here, the mean number of hours worked in a typical week showed little variation, ranging from 41.1 in 1981 to a high of 41.7 in 1995 (see Table 7.9). However, the time series does reveal slightly increased within-year variation in the typical number of hours worked per week, as demonstrated by an increase in the standard deviation from 10.81 in 1981 to 12.19 in 2005. This suggests that workers schedules are diverging over time with the 40 hour work week giving way to polarized schedules characterized by either long hours or part-time schedules. This is affirmed by Figure 7.2 which shows the percent of responses reporting number of hours worked in each category (percents are provided for comparison because sample sizes varied significantly between 1981 and 2005).

Figure 7.2

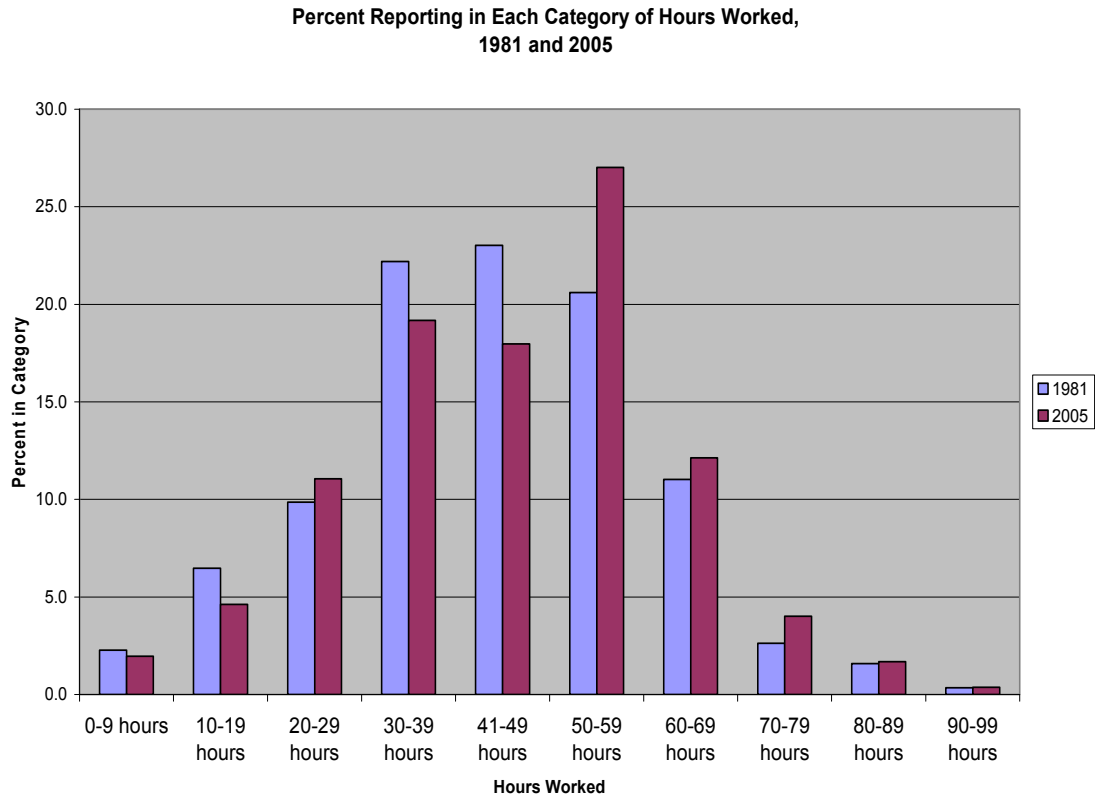
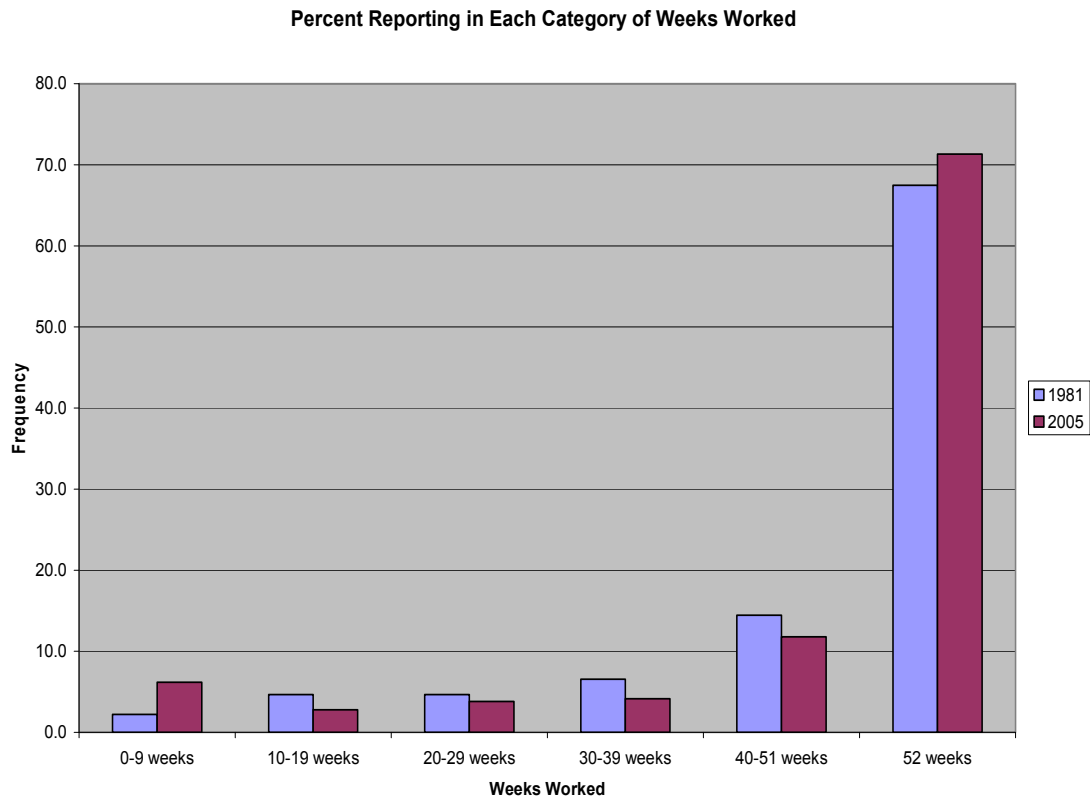


Figure 7.2 illustrates a shift in the number of hours worked per week toward the higher categories. While responses in 1981 tended to fall in the 30-39 and 41-49 hour categories, responses in 2005 are more widely distributed. As a note, for both years respondents reporting 40 hours per week were removed because their very high frequency obscured the variation in other categories as displayed in this graph. In 1981, 52% reported working exactly 40 hours per week, while in 2005 46% reported working 40 hours per week.

A similar pattern is evident in the number of weeks worked in the last 12 months. While the average number of weeks declined slightly from 46.15 in 1981 to 45.32 in 2005, greater variation exists in the number of weeks worked as indicated by the increasing standard deviation (i.e. 11.6 in 1981, 14.2 in 2005). This suggests that fully

employed workers are working a greater number of hours per week, while part-time employees are working fewer weeks. It is not known whether those working fewer weeks are doing so voluntarily in exchange for more flexible schedules or involuntarily due to underemployment. Figure 7.3 illustrates the increasing polarization of work schedules.

Figure 7.3



In

2005, workers were more likely to report working either a very small number of weeks (between 0-9) or a full-time schedule of 52 weeks (including paid vacation and sick time). In contrast, in 1981, more workers reported working between 10 and 51 weeks. The percent of earners working all 52 weeks of the year rose from 67.5% in 1981 to 71.3% in 2005.

The primary earner's number of hours worked per week and weeks worked per year is expected to have a positive relationship with spending in long-term oriented expenditure categories. That is, fully employed workers are expected to have greater job security and thus to allocate a larger portion of their income to long-term expenditure and savings.

Occupational category, employment sector and hours and weeks worked by the primary earner, will each appear in the regression models predicting allocation to each of the expenditure categories, and relative savings. These main predictive independent variables are accompanied by the demographic, educational and income control variables discussed in the next section.

Sample Selection and Characteristics

The sample used in this analysis includes households surveyed by the Consumer Expenditure Survey during the first quarter of the years 1981, 1985, 1990, 1995, 2000 and 2005. The following criteria were used to exclude some households based on their earning characteristics: 1) households in which the primary earner and spouse (when applicable) were over the age of 65, 2) households in which neither the primary earner nor the spouse had earned income during the data collection period, 3) households in which the primary earner was someone other than the main respondent or their spouse (e.g. an adult child living in the household). While both the expenditure and income measures collected by the CEX contain household level information, occupational and demographic characteristics are collected for members of the household as individuals. For this analysis, I utilize the demographic characteristics of the primary earner - the

individual in the household who contributed the largest amount of income to the household – to represent the demographic profile of the household while acknowledging that this individual may not be responsible for many of the expenditure decisions made by that household. However, as discussed previously, reliance on the primary earner’s characteristics as demographic and occupational markers for the household is particularly appropriate to this analysis of economic insecurity in which other household members’ degree of security is most reliant on the primary earner’s income. Descriptive statistics on the primary earner’s demographic characteristics are presented in Table 7.10. These variables appear as controls in the regression models described in this chapter.

Demographic change in the CEX sample tracks closely to corresponding shifts in the U.S. population. In 1981, females were the primary earners in 27% of sampled households, including both households with no male spouse/partner and those in which the female spouse earned more than her male counterpart. This percentage rose steadily throughout the time series, and in 2005, the percent of households with a female primary earner was 44.6%.

The race and ethnicity information collected by the CEX is limited, particularly for the early years of the time series. To create a uniform variable to capture race, the 2000 and 2005 race variable is re-coded to the four categories present in 1981 and 1985 (White, Black, American Indian/Aleut and Asian). No data was collected on respondent ethnicity until 2000. In all years, white respondents composed the overwhelming majority (between 82 – 88%) of survey respondents. The percentage of black respondents in the sample rose from 9.7% in 1981 to 12.23% in 2005 - most likely as a

result of the growing percentage of blacks in the U.S. population as well as improved methods for contacting and gaining response from disadvantaged populations.

Table 7.10 Characteristics of the Primary Earner

Variable	Value	1981 (N=2750)	1985 (N=3186)	1990 (N=3215)	1995 (N=3153)	2000 (N=4804)	2005 (N=2963)
		N (%)	N (%)	N (%)	N (%)	N (%)	N (%)
Sex	Female	746 (27.13)	892 (27.99)	988 (30.73)	1036 (33.93)	2017 (41.99)	1321 (44.58)
	Male	2004 (72.87)	2294 (72)	2227 (69.27)	2017 (66.07)	2787 (58.01)	1642 (55.42)
Race	White	2363 (85.9)	2764 (86.75)	2731 (84.95)	2678 (84.93)	4223 (87.90)	2439 (82.3)
	Black	267 (9.70)	314 (9.86)	358	337	543 (11.30)	363 (12.25)
	Asian	111 (.040)	20 (.006)	107	116	188	138 (.047)
Rural/Urban	Urban	2750	3184	3212	3152	4402	2780
	Rural	.	.	.	.	409	182
Region	Northeast	539 (20.23)	629 (20.74)	681 (21.95)	633 (20.12)	861 (17.43)	395 (13.74)
	South	767 (27.69)	790 (24.83)	838 (26.63)	802 (26.59)	1149 (24.25)	707 (23.18)
	Midwest	763	912	922	951	1614	1070
	West	681	853	771	766	1391	790
Family Size	1 person	709 (25.78)	881 (27.65)	806 (25.07)	755 (23.94)	1208 (25.15)	956 (32.26)
	2 people	661 (24.09)	766 (24.04)	826 (25.69)	861 (27.3)	1398 (29.1)	849 (28.65)
	3 people	512 (18.6)	573 (17.98)	619 (19.25)	577 (18.30)	893 (18.59)	477 (16.10)
	4 people	462 (16.8)	549 (17.23)	537 (16.70)	549 (17.41)	856 (17.81)	399 (13.47)
	5 people	229	271	272	258	417	173
	6+ people	177	144	152	152	243	108
Educational Attainment	1 – 11 years	441	484	395	348	597	349
	HS Diploma/GED	954 (34.7)	1100 (34.5)	1093 (34.0)	1077 (34.16)	1714 (35.7)	962 (32.5)
	Some College	701	860	877	911	1858	1211
	College Degree	444	562	609	655	1138	774
Variable	Unit	Mean (Std Dev)	Mean (Std Dev)	Mean (Std Dev)	Mean (Std Dev)	Mean (Std Dev)	Mean (Std Dev)
Age	Years	38.53 (13.84)	39.29 (13.76)	40.12 (13.15)	41.19 (13.14)	42.22 (42.22)	43.8 (14.32)
Educational Attainment	Years	13.31 (3.03)	13.73 (3.39)	13.65 (2.93)	13.68 (2.79)	13.68 (2.74)	13.84 (2.9)

The percentage of earners living in single person households in the sample declined between 1985 and 1995, before rising again in 2000 and 2005. In all years, 50-60% of earners lived in households with either one or two people, with this percentage rising over time. The average age of households' primary earners rose consistently from 38.5 in 1981 to 43.8 in 2005. This increasing age is consistent with the aging of the 'baby boomer' generation which contained a disproportionately high percentage of the adult population during the 24 years represented by the data. Age will be an important control in these models for several reasons. First, expenditure patterns have significant, known age-related effects; specifically that younger adults of child bearing age spend more income on disposable goods while older adults are more likely to spend on children's education, travel and savings. Second, the relatively older age of respondents in the later years of data has the potential to mask increases in short-term oriented spending over time due to their greater likelihood to allocate income to savings. Including age as a control variable should minimize the impact of these age related effects.

Modest increases in the educational attainment (ranging from 13.3 in 1981 to 13.8 in 2005) are observable in Table 7.10. However, the percentage of respondents with some college or above rose sharply from 55% in 1981 to 81.5% in 2005. This increase in education among primary earners is consistent with changes in the percentage of the population attending at least some college during this period. It is unknown what effect changes in the educational achievement of individuals in the sample may have. While increasing education is known to have an effect on spending patterns at any given point

in time, largely due to differences in income by education level, the effect of education on expenditure decisions over time will be determined by the models estimated below.

Analysis of Relationships between Dependent and Independent Measures

Bivariate relationships between dependent (expenditure) variables, respondent job characteristics and demographic features of the household are presented in Appendices C – E. Appendix C presents the effect of several employment and demographic characteristics on levels of spending in each category. Bivariate Tobit models were used to assess the predicted level (or percentage) of spending for respondents without a given characteristic (the first number presented in each cell), and the amount of increase or decrease associated with being in that category. Results for total expenditure are in dollar amounts, while all other categories are presented as percentages of total spending.

Occupational characteristics and total spending

Among the occupational categories, being a manager/professional or in the armed forces was associated with significantly higher total spending. In the case of managers, these higher levels composed nearly 50% of total spending. Having a primary earner in all other occupational categories was associated with lower total spending. The disproportionate representation of managerial/professional occupations in the sample (26-33%) likely affects the reference point for each of the other occupational categories. Being in the private sector, having a female primary earner, and living in the Midwest or South were all associated with significantly lower levels of total spending, while being in

the public sector, self-employed, in an urban environment and living in the Northeast or West was associated with higher levels of total spending over comparison groups. These results are consistent with and likely driven by known patterns in income disparity according to these characteristics; for this reason, there are limited conclusions that may be drawn about spending levels. These significant effects highlight the importance of including these demographic control variables in the models presented later in this chapter.

Occupational characteristics and short-term spending

With respect to the aggregate short-term oriented expenditure category, being in a managerial, technical/sales or armed forces occupation was associated with a significantly higher allocation to short-term goods. Lower paid occupations such as service, production/repair and operators were associated with significantly lower levels of predicted spending on short-term goods relative to the sample as a whole. Examining this relationship net of total income will be valuable for its ability identify occupational effects apart from the income generated by those positions.

Employment sector had minimal effect on the predicted amount of spending allocated to short-term goods. The coefficients for private and public employment were both negative, but nonsignificant, while the coefficient for self-employment was a positive, nonsignificant value. Living in an urban environment and living in the northeast or Midwest were associated with a significant increase in predicted short-term spending relative to the sample as a whole, while having a female primary earner, living in the South and West was associated with a decrease in short-term spending. These findings

are closely aligned with those for total expenditure and likely are driven by variation in available income.

Occupational characteristics and long-term spending

Occupational category of the primary earner also generated a significant difference in the amount households spend on long-term oriented goods. Managers also spent a larger proportion of their total expenditure on goods incorporated in the long-term category (food at home, shelter, education, health care and personal/life insurance) meaning that households in this group allocate a greater proportion of their income to expenditures selected for their short or long term orientation, and less on expenditures that were deemed not indicative of either orientation (e.g. transportation, other vehicles, personal care, utilities and miscellaneous goods). Having a primary earner who was either in a technical/sales or armed forces occupation was associated with a significant decrease in the predicted amount of expenditure allocated to long-term goods. With regard to this outcome variable, service sector employees were split from other low-wage occupations, households with a primary earner in the service sector had a 1.4% increase in the amount of expenditure allocated to these goods, while those with a primary earner in the production and operator occupations saw a decline in allocation to long-term goods, relative to other occupations, although it was not significant.

As with short-term expenditures, employment sector does not seem have a substantial effect on the amount of expenditure predicted among long-term expenditures. Coefficients for each of the dichotomous variables for sector were non-significant. Spending on long-term oriented goods was associated with a significant increase in spending for households with a female primary earner, those that were located in urban

areas, the Northeast and West. Only residence in the Midwest was associated with a significant decrease in the amount spent on long-term goods. These results present an interesting pattern in the data that is likely income dependent. Several categories such as managerial occupation and urban location were associated with significant increases in spending for both short-term and long-term oriented goods. This is possible because these aggregate categories include only about two thirds of the expenditure categories present in the CEX. While, one might expect households to clearly tend toward one direction or the other, this suggests significant spending in the remaining categories relative to the rest of the population. The regression models presented later in this chapter will parse the relative effect of contribution of occupation and other household characteristics to determine whether these patterns persist.

Association between occupational characteristics

Appendix D presents the results of tests of bivariate association among the job insecurity measures. Overall, they suggest strong relationships among these variables. Private sector employment is positively correlated with technical/sales, service, and farm work, while being in a managerial/professional or armed services occupation is negatively correlated with private sector employment. Surprisingly, self-employment was negatively correlated with all occupational groups (although the effect was non-significant for production/repair). This negative relationship may be the result of a very small self-employed sample.

Private sector employment was associated with a decrease in the number of hours and weeks worked by the primary earner. This is contrary to the perception of private

sector workers working longer hours than those in government; however this finding is likely driven by the larger proportion of part-time and contingent workers in the private sector. By contrast, government workers are more likely to be full-time employees; adding to this effect are the armed services employees in the sample, who worked a predicted 6 hours longer per week than other occupations in the sample. Among other occupational groups, managers/professionals were the only occupation with a significantly larger number of both hours and weeks worked. This difference is likely due to the greater security of these positions as well as the lower incidence of part-time work. Technical/sales and service occupations are the only occupations to have significantly lower levels of 'hours worked per week' and 'weeks worked per year'. The other, predominantly working class occupations, production/repair and operators had fewer weeks worked per year (potentially due to periods of work slowness or layoff) but a higher number of hours worked per week than the sample as a whole. The bivariate relationships between job characteristics reinforce what is already known about the reliability of work by sector and occupational group. Managers and professionals experience a larger number of work hours and weeks than typically blue collar occupational groups. The larger number of hours worked by private sector employees is useful in understanding the heterogeneity of this group. Among private sector employees, the standard deviation for weeks worked is 13.2 while for government workers it is 11.7. While some private sector employees may work relatively long hours, others are only partially employed and report lower values. This is particularly significant due to the fact that reported hours and weeks worked are for the household's

primary earner, suggesting the potential for employment and income instability in those families.

Household occupational demographic characteristics

Appendix E presents associations between occupational and demographic characteristics for the sample. Due to the varying form of variables measuring these characteristics (continuous, ordinal and dichotomous (nominal)), three different statistics are presented. See table notes for indications of which test is presented in each cell.

Overall, the most significant associations between occupational and demographic characteristics were for age and education level. For example, being a manager was positively associated with age, adding a full year of age, on average, for managers compared to the rest of the sample. Other occupations such as technical/sales, operators and members of the armed services all had significantly lower average age levels (being a member of the armed forces was associated with an almost 10 year decrease in age). Similarly, being a manager was associated with an almost three year increase in educational attainment, while other occupations (aside from armed forces) each experienced a drop in education level relative to other occupational groups. While these patterns are expected, it is also worthwhile to note the substantial effect of managers in the sample, who represented between 26-33% of the sample, depending on year. Interestingly, working in the private sector was positively associated with both education level and age of the primary earner, while government sector employees had lower age and education levels. In the regression analyses presented in Chapter 8, age and education level are expected to have the opposite effect on short term expenditures from

sector. That is, increasing age and education level are expected to increase household job security (largely through employment tenure and increase competitiveness in the job market) while employment in the private sector is expect to be negatively associated with job security and thus long-term spending.

Results in Appendix E show that occupational category had few significant associations with demographic characteristics such as gender, race and marital status of the primary earner and urban/rural location of the household. The only notable effects included positive, though weak, associations between having female primary earner and being in the technical/sales and service occupations, and weak negative associations between having a female primary earner and operator and production/repair occupations. The only other association of note was a weak, positive relationship between being a black primary earner and working in service occupations.

However, there were findings of note between these demographic measures and the number of hours and weeks worked by the primary earner. Women and black primary earners had substantially reduced numbers of both hours worked per week and weeks worked per year. While being white, of 'other' race and being married is associated with a significantly larger number of hours and weeks worked. These results are consistent with known occupational outcomes for these groups in which males, whites and married individuals experience better employment levels. A surprising counter note to this finding was that the association between being a manager and primary demographic characteristics was not significant since managers were found to have significantly higher numbers of hours and weeks worked.

Overall, the bivariate relationships summarized here were either nonsignificant or in expected directions given known patterns of occupational and socioeconomic outcomes. Of importance for the regression analyses that follow is the significant relationships among occupational measures (i.e. occupational category, sector, and hours and weeks worked), as those measures will be working together in regression models that follow to jointly capture the level of insecurity experienced by the primary earner.

Conclusion

This chapter describes patterns in the independent and dependent variables used in the following regression analysis, as well as a demographic profile of the selected sample. Due to complexities in the manner in which income and expenditure information was collected, I choose to calculate dependent expenditure variables as percentages of households' total income. This calculation reveals a substantial proportion of the sample with annual expenditure in excess of income. Comparison of expenditure percentages indicates that spending allocation generally falls within three groups; physical necessities, which constitute the largest percent of income (8 – 20%), a middle category of social necessities and recreational purchases (3 – 5%), and a group of more infrequent purchases (0 – 2%)

Bivariate analyses indicate a strong relationship between the four occupational measures included here. One continuing challenge is how to interpret differences in working time between, for example, employment sectors. As discussed, private sector workers reported fewer working days and hours than those in the public sector, a finding that could be indicative of underemployment or more reasonable work expectations.

Finally, the relationship between expenditure allocation and occupational characteristics was consistent with well-established patterns related to income. For example, higher paid occupations such as managers and technical/sales workers spent a larger proportion of income on short-term expenditures. Controlling for household income will be a valuable contribution to the regression analyses discussed in the next chapter.

CHAPTER EIGHT: MULTIVARIATE ANALYSES OF EXPENDITURE ALLOCATION

Introduction

This chapter presents results from regression analyses of households' expenditure habits. It begins by describing an adaption to a model outlined by DiPrete and Grusky (1990a; 1990b), that allows for a multi-level analysis of repeated cross-sectional data. The next section describes a transformation of several dependent variables to resolve measure skewness. The remaining portion of the chapter presents regression results for each of the nine dependent variables.

The regression models presented in this chapter regress the percentage of after-tax income allocated to nine expenditure categories on four measures of household employment insecurity. In addition, these models control for demographic and income characteristics of each household's primary earner. The independent variables of interest, the occupational characteristics of the primary earner, serve as indirect measures of the household's economic insecurity via the potential for job loss or involuntary work reduction. The nine expenditure categories that serve as dependent variables were chosen from among the Consumer Expenditure Survey's 23 primary expenditure categories, and include the proportion of total expenditure allocated to: education, entertainment, household equipment, personal care and utilities, the proportion of total *food* spending allocated to food prepared at home and food prepared away from home, and two aggregated expenditure categories, that are composed of expenditures deemed to be predominantly short or long-term oriented.

Adaption of DiPrete and Grusky's multi-level model for repeated cross-sectional data

To examine the changing effect of occupational characteristics on expenditure patterns over time, I employ a multi-level regression model for repeated cross-sectional data. This approach was first described by DiPrete and Grusky (1990a; 1990b) as a method of measuring both structural (macro-level) and individual effects, over time. In DiPrete and Grusky, 1990a, the authors analyze trends in individual-level effects in the context of changing societal and regulatory conditions. Similar to the analysis employed here, the authors utilize repeated cross-sectional data (GSS, 1972-1987) to examine changes in individual-level effects over time.

Specifically, they seek to examine whether regulatory changes enacted in response to civil rights legislation differentially affect the socio-economic attainment of racial and gender demographic groups. Their approach allows them to determine whether these macro (societal) level changes have differing effects across groups of workers by allowing demographic indicators such as educational attainment and father's SES to vary as functions of time-dependent macro level measures.

The adaption of DiPrete and Grusky's approach used here employs a two level analysis in which time, referred hereafter as 'year', is used to capture the linear effect of changing cultural and social pressures around consumption activities. As discussed in Chapter 5, households' degree of employment security is expected to affect their allocation of financial resources to expenditure categories. Specifically, in households where the primary earner has less secure employment conditions, members are anticipated to allocate a greater proportion of their income to short-term oriented

expenditures, as defined previously. In addition to this single level relationship between occupational conditions and spending, the strength of this relationship is expected to increase over the course of the time period examined here (1980-2005). As explained in prior chapters, the dual pressures generated by insecure employment on the one hand, and an increasing short-term emphasis on the other, are anticipated to strengthen the relationship between the explanatory and dependent variables in the models discussed below. While the coefficients for the employment characteristic (i.e. occupational group, sector, working hours/weeks) main effects indicate whether differences between the reference groups (managers/professional and private sector employees) and the measurement groups (all other occupational groups and government sector or self-employed workers) are meaningful, coefficients for the employment characteristic-year interactions provide information on whether the effect of having each of those characteristics (as opposed to the reference characteristics) varies over the time series included here. Based on the observed effect of the unemployment rate on perceived job insecurity covered in Chapter 6, each model includes a single macro variable – the national, occupation-group specific, unemployment rate.

Transformation of dependent variables and model specification

In the following section, regression results are presented separately, in tables, for each dependent variable. The dependent variables included are seven individual expenditure categories (food at home, food away from home, education, entertainment, household equipment, personal care and utilities), as well as two summary expenditure categories titled short-term and long-term expenditures (see pp. 96-100 for a description

of these categories). In each case, the dependent variable is calculated as the annual dollar amount spent in that category divided by the household's total annual expenditure.

Prior to conducting the regression analysis, the distribution of each dependent variable is examined using probability plots. As discussed in Chapter 7, this examination revealed substantially skewed distributions for most variables. In response, I perform a natural log transformation of all dependent variables aside from education and food at home. The probability plots of each transformed variable revealed substantial improvement in the location and skewness of the distribution. While the transformation of a few expenditure categories resulted in a left-skew of the distribution, the overall symmetry of each distribution was greatly improved. The resulting regression models, outlined below, take a log-linear form in which results are best interpreted by multiplying estimated coefficients by 100. After multiplication by 100, a one unit change in each independent variable gives an x percentage change in the dependent variable.

As a result of this log-linear transformation, estimates of the percent of total expenditure allocated to a given expenditure category require a back transformation in order to provide the estimated value on the same scale as originally reported. To conduct this back transformation, I utilize the approach of Miller (1984) in which estimated values for a household with specified characteristics are calculated using a multiplicative model and in which the regression error is approximated using the calculation: $exp(.5 * model\ sigma^2)$. Thus the final calculation used to produce the estimated percentage of total expenditure allocated to a given expenditure group, for a household of specified characteristics is:

$$\hat{Y} = Exp(\beta_0) * Exp(\Sigma(\beta_1 x_1 \dots \beta_k x_k)) * Exp(.5 * \sigma^2)$$

Throughout the summaries of multivariate results provided below, review of the effect of specific variables and their significance will be followed by examples of the predicted levels of spending for households with targeted characteristics.

Results of six regression models are presented for each transformed dependent variable (see Table 8.1). The first (base) model includes dichotomous variables for the primary earner's occupational group and employment sector as well as the number of hours and weeks worked. The dichotomous (dummy) variables for occupational category are each based on the manager/professional occupational group as the reference category (see 1d in Table 8.1). This group was chosen due to being the modal occupational category as well as the employment category hypothesized to be most secure. Sector dummy variables (government and self-employment) have private sector employment, the most common sector, as the reference category (see 1e in Table 8.1). Each model includes 12 demographic control variables, most significantly, household after-tax income (see 1j in Table 8.1). A control for household income in the model plays the important function of removing the intermediary role of income in the relationship between occupational characteristics and expenditure patterns. Each of the occupational characteristics (i.e. occupational category, sector and hours/weeks worked) has a significant effect on income levels. In turn, the amount of income available to the household impacts the proportion of that income allocated to long-term and short-term oriented goods. By controlling for household income, I seek to remove the effect of income on

Table 8.1 Inclusion and Layout of Variables in Models 1 - 6

	Model 1: Base Model	Model 2: Base with Occupation -Year Interactions	Model 3: Base with Sector-Year Interactions	Model 4: Base with Working Time-Year Interactions	Model 5: Base with Unemp. Rate-Year Interaction	Model 6: Base with all Interactions
Intercept	1a	2a	3a	4a	5a	6a
Year (0 – 24)	1b	2b	3b	4b	5b	6b
Unemploy. rate for occupation/year	1c	2c	3c	4c	5c	6c
Unemploy. rate*Yr Interaction					5c	6c
Occupational Measures						
Technical/Sales	1d	2d	3d	4d	5d	6d
Service	1d	2d	3d	4d	5d	6d
Farm	1d	2d	3d	4d	5d	6d
Production/Repair	1d	2d	3d	4d	5d	6d
Operator	1d	2d	3d	4d	5d	6d
Tech/Sales*Yr Interaction		2e				6e
Service*Yr Interaction		2e				6e
Farm*Yr Interaction		2e				6e
Prod/Repair*Yr Interaction		2e				6e
Operator*Yr Interaction		2e				6e
Government sector	1f	2f	3f	4f	5f	6f
Self-employed	1f	2f	3f	4f	5f	6f
Gov. sector*Yr Interaction			3g			6g
Self-employed*Yr Interaction			3g			6g
Hours worked/wk	1h	2h	3h	4h	5h	6h
Weeks worked/yr	1h	2h	3h	4h	5h	6h
Hours worked*Yr Interaction				4i		6i
Weeks worked*Yr Interaction				4i		6i
Demographic Controls						
After-tax household income	1j	2j	3j	4j	5j	6j
Age	1j	2j	3j	4j	5j	6j
Educ. attainment	1j	2j	3j	4j	5j	6j
Female	1j	2j	3j	4j	5j	6j
Married	1j	2j	3j	4j	5j	6j
Black	1j	2j	3j	4j	5j	6j
Other race	1j	2j	3j	4j	5j	6j
Family size	1j	2j	3j	4j	5j	6j
Urbanicity	1j	2j	3j	4j	5j	6j
Midwest	1j	2j	3j	4j	5j	6j
South	1j	2j	3j	4j	5j	6j

expenditure patterns associated with various occupational conditions in order to isolate the effect of their non-monetary employment security or insecurity.

Each model includes a variable ‘year’ to capture the linear (non-varying) effect of time for each category of the occupational measures (see 1b in Table 8.1). The estimated coefficients for time give the linear trend in expenditures after adjusting for other covariates in the model. This linear effect is an important point of comparison for the interactions described below, which allow measurement of changes over time in differences in the effects of occupational categories.

Finally, a measure of the national unemployment rate for the primary earner’s occupational group in their survey year is included in the model (see 1c in Table 8.1). The unemployment rate is added to the model after analyses of perceived job insecurity in Chapter Six observed significant effects from the occupation-specific unemployment rate in those years. The national unemployment rate fell from close to 10% in 1981 to approximately 4.5% in 2005. The analyses in Chapter 6 demonstrate that the changing unemployment context had a measurable effect on perceived job insecurity during those years. The time trend for the job insecurity measures utilized in that chapter shows that perceived insecurity exhibited little net change during the 25 year period. However, after controlling for unemployment, a clear increase in employment insecurity is evident (see p. 117).

In these multivariate analyses, the estimated coefficient for the unemployment rate measures the linear trend in the effect of unemployment on households’ spending in the given expenditure category. For example, a significant, positive coefficient for the unemployment rate variable indicates that net of other covariates, an increasing rate of

unemployment is predicted to increase the proportion of total spending allocated to that expenditure category.

Each table also includes five extended models (i.e. Models 2 – 6), which introduce on a rotational basis, interactions between employment characteristics and year to the base model described above. Employment characteristic-year interactions are added and removed from the models in groups such that the second model listed has interactions for each of the occupational categories, with manager-year as the reference group, (see 2e in Table 8.1), the third model includes interactions between sector and year, with private sector-year as the reference group (see 3g in Table 8.1), the fourth model includes interactions between hours and weeks worked and year (see 4i in Table 8.1), the fifth model includes an interaction term for unemployment rate and year (see 5c in Table 8.1) and the sixth (full) model incorporates variables in the base model as well as all of the interactions discussed above (see 6c, 6e, 6g and 6i in Table 8.1). The purpose of these adjusted, interaction models is to allow each of the employment characteristics to vary overtime, rather than assessing their constant effect (as performed in a single-level analysis) across the time series. As discussed in earlier chapters, I expect that households' allocation of income to short and long-term goods is affected by their level of job security at each of the survey years covered, but it is also anticipated that the effect on job insecurity of spending patterns has strengthened over the last three decades resulting in greater differentiation in spending between secure and insecure households. If this hypothesis is correct, coefficients for interactions between time and occupation, sector and time-worked will be significant in the respective models.

For example, in the models which include occupation category-year interactions, a significant coefficient for service sector occupations indicates that the effect of time on the dependent variable is significantly different for service sector employees than for those in management or professional occupations. Similarly, a significant coefficient for the government sector-year coefficient illustrates that the time trend for government sector employees differs significantly from those in the private sector. Finally, in the models that employ interactions between hours and weeks worked and year, a significant coefficient for the hours worked per week-year interaction indicates that the effect of time differs for households depending on the length of the primary earner's work week.

In order to compare the relative values of these models in predicting levels of spending in each expenditure category, a modified-R² fit statistic is presented. This modified statistic is McFadden's R² which utilizes the difference between the -2 log likelihood for the model of interest and an intercept-only model of that dependent variable. The calculation of McFadden's R² reported in the sections below is:

$$McFadden's R^2 = 1 - \frac{-2 \log likelihood_{(specified\ model)}}{-2 \log likelihood_{(intercept-only\ model)}}$$

This value of this fit statistic will be compared for the base model described above with each of the interaction models. A larger fit statistic indicates an improvement in the model specification.

Regression results by dependent variable

Food at Home Expenditures

Results for the regression of the percentage of food expenditure allocated to food-at-home (groceries) on the explanatory variables discussed above are presented in Table A.1. As explained in Chapter 7, while most dependent variables included in the regression analyses are calculated as proportions of total expenditure, food at home (and food away) are calculated as proportions of *food spending*. As a result, the mean level of this variable ranged from 72.3 to 76.8 during the six years represented by the data. Calculating food spending at home and away from home as proportions of food spending, rather than total expenditure, allows for a closer examination of the short or long-term orientation of the households' spending behavior (see p. 15).

The base model, absent interactions with time, provides an initial intercept value of 54.6% of total food spending, indicating that for those in the reference group for each occupational measure; just over half of food spending is dedicated to food eaten at home. The coefficient for the linear effect of time on food-at-home expenditures was positive and significant; indicating that for each year between 1981 and 2005, there was a .33% increase in the amount of food dollars allocated to groceries. Over the course of the time series, this represents a 7.92 percent increase. The coefficient for the occupation-specific unemployment rate was also significant and positive, with a .5% increase in the amount spent on groceries for every one percent increase in the unemployment rate after controlling for other variables in the model.

Among the five main effects for occupational groups in the model, only farm and production/repair employees have significantly different levels of food at home expenditures than the reference group - managers and professionals. However, in both cases, substantial differences were observed. Having a primary earner employed in a

farm occupation was associated with a 3.5% increase in the predicted level of the household's food at home spending, while production/repair employment was associated with a 1.8% increase in grocery spending. Surprisingly, self-employed workers allocate a significantly lower level of food dollars to food at home. Being a self-employed primary earner is associated with a 4% decline in the proportion of food spending spent on groceries. In light of the fact that many self-employed persons work from home, one would expect to see an increase in food at home spending (similar to what was observed for farm employees). Government sector employees have grocery allocation levels similar to those of private sector employees. The number of weeks worked per year also had a positive effect on the predicted level of food at home expenditures. Each additional week worked annually is associated with a small (.02%), though significant, increase in food at home spending. For households with a primary earner working 40 hours per week, this represents an increase of .2% over primary earners with part-time (30 hours per week) schedules.

Differences in the level of food at home spending are illustrated by comparing the predicted values for households under different employment conditions. For example, when no interactions are present in the model to account for employment-specific variation over time, a household whose primary earner is a manager or professional in the private sector, and who works an average number of hours and weeks per year, is estimated to allocate 66.7% of their food dollars to food at home in 1981 and 69.1% in 2005. By comparison, a farm worker working 50 hours per week and 52 weeks per year is estimated to allocate 70.1% of their food dollars to food at home in 1981 and 72.6% in

2005. Thus, we see a notable increase in food at home spending when comparing farmers against the reference group of managerial employees.

Virtually all coefficients for the individual and household level demographic control variables in the base model were significant at the $p < .05$ level. Exceptions were households with primary earners of 'other race' (compared with households with white primary earners) and households located in the South (compared with household in the Northeast). After-tax household income had a negative effect on food-at-home spending with a 1% decline in grocery spending for every \$10,000 increase in household income. Each additional year of age for the primary earner resulted in a predicted increase in food at home spending of .2% while each additional year of educational attainment reduced the predicted level of food at home spending by .7%. The largest effects on predicted food at home spending were reserved for differences in the gender, race and marital status of the primary earner. Households with a female primary earner spent an average of 3% more on food at home than households with a male primary earner. This is surprising since greater workforce participation by women has been found to be associated with greater reliance by the household on outside domestic services (Treas and Ruijter, 2008; Cohen, 1998). In this case, families in which a female is the predominant earner, the household is allocating more of their food dollars to groceries than comparable male-supported households. Having primary earners' who are married (as opposed to single, divorced, widowed) and black (as opposed to white) was associated with an increase in the household's allocation of food dollars to food prepared at home. Families with black primary earners had a full 6% increase in the percent spent on food at home over families with white primary earners. More modest, though significant effects

are present for family size in which a one person increase in family size is associated with a 3.2% increase in food at home spending, urban location, for which urban residents spent approximately 1% more on food at home, and residents of the Midwest, who allocated 2.5% less of their food dollars to food prepared at home.

Introduction of occupation category interactions with year to the second model (Table A.1) altered the significance of main effect coefficients for several of the occupational categories as compared with the reference group, managers/professionals. With the inclusion of these interactions, both service and operator employees allocate significantly fewer of their expenditures to food at home in the first year of the time series. For example, having a primary earner who is a motor vehicle or machine operator (as opposed to a manager or professional) is associated with a 4.3% decrease in allocation of food expenditures to food at home. With the introduction of occupation-year interactions, the main effect coefficients for farm and production/repair occupations become non-significant. Interactions between service and operator employment and year are significant and positive, indicating that households in these groups experienced an increase in the amount allocated to food at home between 1981 and 2005 relative to households of managers and professionals.

The effect of occupational difference in this model is best illustrated by comparing the reference group (managers/professionals in the private sector) to households of self-employed service industry workers. For households with a reference group primary earner, the estimated percentage of food dollars allocated to food at home was 67.1 in 1981 and 69.2 in 2005. Households of service industry, self-employed earners are estimated to spend 59.3% on groceries in 1981 and 65.2% in 2005, a

substantially lower level in both years than that allocated by the more secure, reference group households. However, the positive coefficient for the service-year interaction indicates that the difference between these two groups decreases during the 24 year time series.

The effect of unemployment rate increases modestly once occupation-group interactions are added to the base model. A one point increase in the unemployment rate in this model is associated with a .8% increase in food-at-home allocation. Coefficients for all other covariates in the model remained substantively the same as results observed in the base model.

The third model presented in Table A.1 introduces interactions between employment sector and time. After these measures are added, the main effect for self-employment - the difference in food at home spending between self-employed and private sector employed primary earners - is no longer significant. The two interaction terms for government and self-employed sector with year are both significant and negative meaning that workers in those sectors had a slower growth in spending during this time relative to households of private sector workers. For example, in 1981 managers and professionals in the private sector are predicted to spend 65.6% of food spending on food at home, with that amount rising to 69.5% by 2005. The combined effect of positive (though nonsignificant) coefficients for the main effect of government and self-employed sectors along with the negative and significant interaction effects, alters the predicted values for government workers from 67.5% in 1981 to 69.0% in 2005 and from 69.1% in 1981 to 62.4% in 2005 for self-employed households. Thus, while spending levels between private and government sector households converged between

1981 and 2005, the difference between private sector and self-employed workers grew. Levels of the effect of hours/weeks worked and demographic controls were similar in size and direction to the base model.

The fourth model of food at home spending includes interactions effects for the number of weeks worked per year and the number of hours typically worked in a week by survey year. In this model, the intercept (spending level for all reference groups) was slightly lower (52.1 vs 54.6) than in the base model, however the magnitude of the linear effect of year increased from .33 in the base model to .51. This suggests that accounting for change in the effect of work length (hours per week and weeks per year) on food at home spending increases the effect of time on spending levels.

Similar to the base model, the main effect for weeks worked per year was significant, although the size of the effect increased only slightly from .02 to .07%. This indicates that, in the base year (1981), households of workers employed for the full year (52 weeks) have .7% greater food at home spending relative to those who were only employed for 42 weeks of the year. However, the strength of this effect falls during the time series such that the number of weeks worked has a negative effect on food at home spending by the end of the time series. There is no significant difference according to the number of hours worked in this model, or change in the effect of this variable over time.

The fifth model, which includes an interaction between the annual unemployment rate and survey year shows a significant main and interaction effect. Here a one point increase in the unemployment rate yields a .68% increase in the percentage of food dollars spent on food at home, after controlling for other covariates. The significant, positive interaction term indicates that this effect increases over time with the

unemployment rate having a more meaningful effect on households' food allocation in later years of the time series. To illustrate, comparison of two households that are occupationally and demographically identical (in this case, a technical/sales worker in the private sector) but under varying unemployment conditions reveals growth in food at home spending from 66% at 2.5% unemployment to 68.4% at 6.0% unemployment in 1981 and an increase from 67% to 70.1% at those same levels in 2005.

Finally, the sixth (full) model incorporates all of the interactions discussed above. The intercept and the linear effect of time remain significant and of similar magnitude to earlier iterations of the model. Surprisingly, introduction of the other interactions renders the coefficient for the unemployment rate and year non-significant, while increasing the size of the main effect indicating that there is no significant change in relationship between the unemployment rate and food at home spending over the time series though the unemployment rate measure remains a significant predictor of allocation to food at home. Both service and operator occupied primary earners continue to have lower levels of food at home spending than managers/professionals with the inclusion of the broader set of interactions. However, while interactions for both of these occupations is significant in the more restrictive model (model 2), they are no longer significant in the full model indicating that there was no notable change in the effect of being in these groups over time.

Neither the main nor the interaction effects for employment sector are significant at the .05 level in the full model though their direction and magnitude is similar to the results for model 3. Weeks worked per year and its interaction with time, continue to be significant with food at home spending as a proportion of total food spending increasing

with the number of hours worked, but the strength of that relationship decreasing between 1981 and 2005. Results for each of the demographic controls are quite similar to the more restricted models, including the base model.

The full model discussed here is a good platform for examining the cumulative effect of employment conditions on food at home allocation. Two ideal types are specified; the first is a higher security household in which the primary earner is a manager or professional who is occupied in the public sector and who works a full time schedule. The second household has lower employment security with a primary earner who is employed part-time as a machine or vehicle operation in the private sector. The more secure household is estimated to spend 68.1% of their food dollars on groceries in 1981 and 73.4% in 2005. The less secure household is estimated to spend 62.5% on groceries in 1981 and 67.8% in 2005. At both end points of the time series, less secure employment is predictive of smaller allocations of total food dollars to groceries, and thus a higher percentage to food consumed away from home.

Food Away from Home Expenditures

Results for the regression of the percent of total food spending allocated to food-away-from-home (i.e. food eaten at restaurants or food prepared by a vendor and eaten as ‘take out’) on the explanatory variables discussed above are presented in Table A.2. Unlike most of the expenditure categories included in the regression analyses, food away from home (and food at home) are calculated as percentages of *food spending* rather than total expenditure. Calculating food away from home as a percentage of food spending, rather than total expenditure, allows for a more detailed discussion of the short or long-

term orientation of the households' spending behavior (see p. 15 for further discussion). As a result, the average value for this variable ranges from 22.6 to 27.7 during the six years represented by the data, with the highest levels present at the beginning of the time series (1980 and 1990).

Examination of the distribution of this variable reveals a substantial right skew. In order to meet the distributional assumptions of this model, the following regression results employ a log-linear transformation of the food away from home variable. However, coefficients that result from regression of log-transformed variables cannot be interpreted without consideration of the error term. To that end, a back transformation of the intercept and error term is conducted (as described by Miller, 1981). For example, the equation used to calculate the estimated value of the intercept in the base model is:

$$\hat{Y} = \text{Exp}(\hat{B}_0) + \text{Exp}(.5 * \hat{u}) \quad \text{or:}$$

$$\hat{Y} = \text{Exp}(.3.5) + \text{Exp}(.56 * 1.58)$$

This calculation returns an intercept value of 35.5 percent.

The base model, which is absent interactions between employment characteristics and time, has a significant, negative relationship between the percentage of food away from home spending and the linear effect of time. Controlling for other covariates, the percentage spent on food away from home declines by 1.3% for each year between 1981 and 2005. The main effect of the unemployment rate on food away from home is also significant and negative such that every point increase in the national, occupation-specific unemployment rate is predicted to result in a 3% decline in the percentage of food spending allocated to food away from home.

Interestingly, occupational category does not have a significant effect on food away from home spending when compared with the reference category, managers and professionals. Similarly, the main effects for government sector and self-employment (when compared to private sector employees) are not significant indicating that food away from home spending is not substantially affected by employment sector, at least in the absence of time related effects.

The hours worked per week by the primary earner does have a significant positive, though small, effect on the percentage of food spending allocated to food away from home. As an example, households of earners who work 50 hours per week, as opposed to 40 hours, are predicted to have an increase of 1.4% in the amount of food dollars they allocate to food eaten out of the home.

Many of the earner and household-level control variables are significant predictors of food away from home spending. The significant coefficient for after-tax income (.005) is interpreted as a .5% increase in the proportion of total expenditure allocated to food away from home for every \$1,000 increase in household income. Educational attainment of the primary earner is also positively associated with food away from home spending, with a one year increase in educational attainment resulting in a 3.6% increase in spending within this category. Interestingly, the presence of a female, married, black or older earner and larger family sizes each has a negative effect on food away spending. For example, having black primary earner resulted in a 27% decrease in food away from home spending over demographically and economically similar households with white primary earners. Residing in the Midwest or south is associated

with a significant increase in food away from home spending relative to households in the northeast.

The introduction of occupation interactions in Model 2 changes the lack of effect of occupation on food away from home spending. With these occupation-year interactions, both the main effect and interactions for service and operator occupations are significant in the model. Households with primary earners in service occupations have an estimated 16% higher food away spending than managers and professionals, while being a vehicle or machine operator is associated with a 22% increase in food at home spending. In both cases, the interactions between these occupational categories and year are also significant, but negative, indicating that the effect of being in these occupational groups rather than being a manager/professional, decreases during the time series. The significance and direction of the remaining covariates are similar to those in the base model.

In comparing households of managers/professionals against those of machine and vehicle operators, the predicted level of food away from home allocation changes from 33.5% to 41.5% of total food dollars in 2005. Although this is a substantial difference, the negative coefficient for the interaction between time and having a primary earner who is an operator indicates that the difference between these two groups is gradually narrowing and disappears by the end of the time series.

The third model introduced interactions between the two sector dummy variables and year. While the coefficient for government employment (over private sector employment) increases in magnitude, it was not significant in this model. The main effect for self-employment and both interaction effects were all non-significant.

Introduction of interactions for time worked in the fourth model resulted in the coefficient for the linear effect of time becoming non-significant. In addition, the main and interaction effects for hours and weeks worked were not significant. For weeks worked, which previously had a significant coefficient, this means that when allowing the effect of time to vary according to the amount of weeks worked, there was no longer a significant effect of working time on food away from home spending. The remaining covariates in the model were similar in magnitude and significance to those in the base model.

In the fifth model predicting food at home spending, an interaction between the occupation-specific unemployment rate and year was added to the model. The coefficient for this interaction and the main effect are both significant and negative. They indicate that a one point increase in the national, occupation-specific unemployment is associated with a 4% decline in the proportion of food dollars allocated to food away from home. Additionally, the negative coefficient for the interaction with year indicates that the strength of this effect increases during the time series, such that the diminishing effect of unemployment rate on food away from home spending becomes more powerful in later years of the time series.

Interestingly, after accounting for this interaction between time and the unemployment rate, the coefficients for technical/sales occupations and operator occupations are both significant with members of each occupational category allocating higher proportions of their food dollars to food away from home relative to households of managers/professionals. This indicates that, in earlier models, changes in the unemployment rate mask difference between technical/sales and operator employees on

the one hand, and managers/professionals on the other. After purging the effect of changing unemployment, both of these occupational groups have significantly higher levels of food away from home allocation than do manager and professionals.

To demonstrate the overall effect of the changing unemployment rate on households' food away from home expenditures, I contrast the estimated allocation levels for households with equivalent occupational characteristics in low and high unemployment scenarios. For households of technical and sales workers in the private sector with an average number of hours and weeks worked, the predicted level of food away spending in a low unemployment environment (national average of 2.5%) is 36.8 in 1981 and 36.3 in 2005. The linear effect of time is minimal in this model and thus the overtime change in allocation levels is small. In a relatively high unemployment environment (6.5%) the percentage of total food dollars allocated to food away falls to 31.9% in 1981 and 31.4% in 2005. The negative coefficient for the interaction between time and the unemployment rate variable indicates that the effect of unemployment levels on households' food away spending is rising over time.

In the final, full model the linear effect of time is nonsignificant indicating that there is no notable change in food away from home spending for the reference group (full-time employed managers/professionals in the private sector) during this time period. As in model two, the effect of having a primary earner in a service occupation has a significant, positive effect on food away from home spending relative to households of managers and professionals. However, the significant, negative coefficient for the interaction term demonstrates that the occupational difference weakens between 1981 and 2005.

Coefficients for employment sector and the interaction between employment sector and time continue to be non-significant in the full model, confirming that employment sector is not an effective predictor of households' propensity to allocate dollars to food away spending. As with most of the prior models, the number of weeks worked by the primary earner does have a significant and positive effect on food away spending, though the strength of that effect does not change significantly over the course of the time series. The effect of demographic and economic characteristics of the household in the full model is quite similar to that in the base model, with income, educational attainment and the presence of a black primary earner all having a large and significant effect on the households' food away from home spending.

To examine the cumulative effect of the covariates in this model on food away from home spending, I contrast outcomes for two households, one in which the primary earner's employment conditions are associated with low employment security and one which is associated with high employment security. In 2005, a household with low employment security, for example, one in which the primary earner is employed in a service occupation, in the private sector and working fewer than the average number of hours and weeks (30 hours per week and 40 weeks per year) in a high unemployment environment (nationally, 6.5%), the predicted percent of food dollars allocated to food away from home is 29.6%. By contrast, a household whose primary earner is employed as a manager or professional in the public sector and who works full time (i.e. 40 hours per week and 52 weeks per year) in a low unemployment environment, the estimated percent allocated to food away from home is 37.7%. These results suggest that food dollars are more frequently allocated to food away from home when a household has

more secure employment conditions. One factor that may mitigate this relationship is the relatively strong effect of weeks-worked on the predicted values. Households with a primary earner working more hours outside the home may increase food away spending through the necessity for more work-day food spending and therefore a loss of time for purchasing groceries and cooking.

Comparison of the goodness-of-fit of these models reveals that the addition of interaction effects to the base model did not generate measurable improvement in the predictive ability of the models. For the base model (all occupational characteristics, linear effect of time and demographic controls) the value of McFadden's R^2 is .34. This same value is calculated for each of the extended models including the full model with all interactions. However, each of these models did provide a substantial improvement over a demographic control-only model. Including only demographic characteristics of the household and primary earner resulted in a fit statistic of .27 indicating a substantially lower predictive ability with the more restrictive model when estimating the percentage of food dollars allocated to food away from home.

Education Expenditures

The base model for education expenditures captures the effect of occupational and demographic characteristics as well as the linear effect of time and the unemployment rate on the percentage of total household expenditures allocated to education expenses (see Table A.3 for results). The distribution of percent allocated to education reveals that this dependent variable is modestly left skewed, though values remain well distributed rather than being severely isolated at one end of the spectrum. Log-linear transformation

increased the degree of skewness of the distribution and thus this variable was left untransformed in the following models.

The intercept for the initial model shows a base level of 10.3 percent of total expenditures allocated to education expenses after controlling for demographic characteristics. This is the level of allocation at the beginning of the time series (1981) for households whose primary earner is similar to the reference group (a manager or professional, working in the private sector with an average number of hours worked per week and weeks worked per year). Neither the coefficient for time nor the unemployment rate significantly changes the base level of education expenditure represented by the intercept. This is unexpected given the relatively large percentage of total expenditure allocated to education by households in the reference group. During periods of higher unemployment, one expects to see either a decrease in education expenditures in order to increase savings or an increase in education spending as a safeguard against potential unemployment. The absence of change in education allocation may be a reflection of the small percentage of respondents with a positive value for this variable.

Only the main effect for production and repair workers is significantly different from managers/professionals in this model, with households of production/repairs workers allocating .5% less of their total expenditures toward education compared to the reference group however, that difference is reduced over the course of the time series. Although the main affect for service workers is not significant in this model, the coefficient for service employment and time is significant and negative indicating that over this time period, education spending by households of these workers fell relative to

those in the reference group. Households of government sector primary earners spend significantly more on education expenditures than those of private sector earner's. The coefficient (.43) indicates an almost half percentage increase in education allocation for those households. Households of self-employed primary earners also have slightly higher levels of education spending, though the difference is not significant.

Both hours and weeks worked significantly affect the percentage of expenditures allocated to education. For each additional hour a worker is employed, on average their household spends .06% less on education. So, for example, the household of a worker working full-time (40 hours per week, on average) would allocate .6% less of their total expenditures to education than the household of a worker with only 30 hours per week. Similarly, households of employees working 52 weeks per year (including paid vacation) are predicted to allocate .7% less of their total expenditures to education than households working only 40 weeks per year. One possible explanation for the negative effect of working time on education expenditure is that households whose earners have lower incomes (as is common among those working part-time and fewer weeks per year) have lower total expenditures and thus educational spending, which is only marginally fungible, composes a higher percent of that spending level. While the relative age of the primary earner might be another potential explanation for differences in education spending (i.e. households of younger adults are more likely to have school age children as well as lower incomes relative to households of workers in their 50s or 60s), this potential explanation has been largely eliminated by the inclusion of primary earner's age and family size as controls in the model.

Unlike several of the expenditure categories discussed previously, annual after-tax income is not a significant predictor of education expenditure. The coefficient for age is in the expected direction, with households of older primary earners spending significantly less on education than those of younger earners. However, the effect of family size on education expenditures was unexpected. The base model indicates that larger households are predicted to spend less on education than smaller households. This is initially surprising because the presence of children is a primary reason for larger family sizes and, in many cases, children require greater education spending than demographically similar households without children. One possible explanation for this finding is that the amount of education spending is composed predominantly of spending on adult (post-secondary) education.

Households of primary earners, who are female, married (as opposed to single or divorced) and black (as opposed to white) also have lower predicted levels of education spending. While a household's location in an urban area or in the South or West (as opposed to the Northeast) also results in significantly lower levels of education spending.

The second model predicting allocation to education expenditures adds interactions between occupational group and time to the base model discussed above. Results for this model indicate that the linear effect of time and the unemployment rate continue to be non-significant. However, the negative coefficient for the main effect of being in a production/repair occupation increases in this model. As a result, the estimated percent of total expenditures allocated to education among households or managers and professionals, in the private sector, is 2.7 in 1980, rising to 2.85 in 2005. For households of production or repair works, the percent of income allocated to education, net of other

covariates is 1.8 in 1980 and 2.4 in 2005 – a substantial reduction compared to the more secure occupational group. The negative, though nonsignificant, coefficient for the interaction between time and production/repair status is associated with a reduction in the effect of this occupational difference over the course of the time series.

Similarly, the interaction between service sector employment and time is significant and negative, indicating that the effect of having a primary earner in a service occupation on education spending becomes a less salient predictor of education spending relative to managers/professionals. Coefficients for the remaining covariates in the model are similar to those in the base model.

The third model introduces interactions between employment sector and time to the base model. While being in the government sector continues to be a significant predictor of education spending, non-significant interactions with time suggest that there is no substantive change in the strength of the effects of government and self-employment during this time series when comparing these groups to private sector employees.

The fourth model in Table A.3 includes interactions between working time (hours or weeks worked) and survey year. Contrary to the base model, the linear effect of time on education expenses is significant in this model such that for each year between 1981 and 2005 there was a -.14% change in the percent of expenditures allocated to education. Over the full course of the time series, this represents a 3.4% decrease in the percent of education expenditures. As in the base model, the coefficients for the main effect of hours and weeks worked are both significant and negative. In addition, the interaction effects between these variables and time are also significant. Over the included time

series, the strength of the effect of hours worked per week on education expenditure increases, indicating that the degree to which workers are employed full-time is becoming a more salient predictor of education spending. Conversely, the interaction between weeks worked and time is positive and significant such that the effect of weeks worked per year on education spending decreases between 1981 and 2005. To quantify the opposing effect of these two work-time variables I compare high and low working time households for hours worked and weeks worked. The household of a primary earner with a lower than average number of hours worked per week (35 hours, the average is 41 per week in 1980), is estimated to allocate 3.5% of their total expenditure to education in 1980 but would allocate just over 4%. The large, negative coefficient for the linear effect of time reduces the estimated level of education allocation during the intervening time period. By contrast, a household with identical occupation and employment sector characteristics, but with a greater than average number of hours worked per week (i.e. 50 hours per week) is estimated to allocate 2.8% of total expenditure to education in 1980 and -.5% in 2005⁹. A household with a small number of weeks (4 hours per week – average was approximately 46) worked per year is estimated to allocate 4.0% of their total expenditures on education in 1980 and .6% in 2005. A demographically and occupationally identical household, with a primary earner working a greater than average number of weeks per year (52 weeks), is estimated to allocate only 2.5% to education in 1980 and -.8% in 2005. These examples show the effects of the significant and negative coefficients for time-worked and also for the linear effect of time on education allocation.

⁹ In this model, negative coefficients sum to negative predicted values in some years (e.g. 2005). These negative values are artifacts of the linear regression model which assumes a continuous dependent variable with values running from negative to positive infinity. Although the actual values of the dependent variables in this study run from 0 – 100%, in a few cases, the regression model results may result in negative predicted values.

In the final model of education spending results are similar to those in the restricted models. The main effect of time on education spending is negative and significant indicating a decline in household allocation to education between 1981 and 2005. The main effect of having a production or repair-occupied primary earner is significant and negative relative to managers and professionals, though no significant effect is present for the other four occupational groups. In the full model, the interaction between time and service employment is no longer large enough to be significant, although the coefficient still indicates a negative relationship with education spending. Government sector continues to have a substantial positive effect on education spending relative to households of private sector employees, with no significant change in that effect during the time series. The magnitude and direction of the demographic variables in the model is very similar to the results presented in the base model.

To compare the cumulative effect of the included interactions on low employment security and high employment security households, I present estimated levels of education allocation at the two ends of the time series. In 1980 a higher employment security household, one in which the primary earner is a manager or professional in the public sector working 40 hours per week and 52 hours per year in a low unemployment environment, the estimated percentage of total expenditure allocated to education is 2.7%. By 2005, the estimated level for an identical household falls to -.63%. By comparison, a low employment security household, for example, a household supported by a production or repair worker in the private sector with a lower number of hours and weeks worked, and operating in a high unemployment context, is estimated to allocate 3.3% in 1980 and 6.6% in 2005. However, examination of the individual coefficients

demonstrates that the increase in spending for less secure households is actually driven by the unemployment rate, rather than occupational characteristics. The negative coefficient for production/repair workers and the positive coefficient for public sector employment lower the relative percentage allocated to education; however, the larger coefficient for unemployment rate increases the contribution of this variable from .125 to .325 when the alternating from high to low employment conditions. Additionally, negative and significant coefficients for hours and weeks worked reduce the estimated percent allocated to education for more secure households whose primary earners tend to work longer, more consistent hours.

The occupational and demographic predictors in these models prove to be weaker predictors of education allocation than many of the categories examined here.

McFadden's R^2 for the base model was .11, and this goodness-of-fit statistic is not changed substantially by the inclusion of interaction effects in the model. However, a noticeable improvement is observed over a demographic control-only model which received an overall model fit of only .02.

Entertainment Expenditures

Results for the regression of total expenditure allocated to entertainment-related goods and services on the explanatory variables discussed above are presented in Table A.4. The non-significant ($p < .05$ level) coefficients in the base model indicate that no significant time trend in entertainment expenditures or statistically significant differences in the average expenditures of occupational groups, after adjusting for occupation-specific unemployment, sector, hours and weeks worked and demographic controls. For

the six occupational categories compared against managers/professionals, t-values are small (ranging from .052 to -.051) and non-significant. However, government sector employees have a 3.9% increase in entertainment spending relative to private sector employees, a significant difference between these groups. For example, in 1981, the predicted percent of total expenditures allocated to entertainment for a technical/sales employee in the private sector (with average demographic characteristics) is 6.1 (at the end of the time series, 2005, that percentage rises to 6.4), the percentage allocated by the household of a similar government sector employee is predicted to be 6.3% in 1981 and 6.7% in 2005.

The number of weeks worked per year has a small, though significant, negative effect on the proportion of total expenditure allocated to entertainment. For each additional week of work performed by the primary earner, the household reduces their allocation of expenditures to entertainment by .2%. While this one week difference is relatively small, households with a primary earner who worked 30 hours a week would spend 2% less on entertainment than households with full-time (40 hours per week) employed primary earners. Given the average proportion of total expenditure allocated to entertainment (4.97%), this represents a substantial decrease in entertainment spending.

With regard to demographic variables included in the model, as expected, increasing after-tax income has a positive effect on entertainment allocation. For every \$1,000 increase in total household income, household members allocate .2% more of their total expenditure to entertainment. Greater allocation of expenditures to entertainment is also positively associated with educational attainment of the primary earner and with being located in the Midwest relative to households in the Northeast. For

every additional year of education held by the primary earner, household allocation of expenditures to entertainment increases by 3.8%. Proportion of total expenditure allocated to entertainment is negatively associated with the primary earner's age, the presence of a primary earner who is female, black or of other race, as well as with household location in the South. As an example, a ten year increase in the age of the primary earner (for example, moving from a primary earner who is 45 years old as opposed to 35 years) creates a predicted decrease in entertainment spending of 9%. Going from a male to a female primary earner generates a 10% decrease in entertainment spending, net of other covariates, while having a black as opposed to a white primary earner decreases entertainment spending by 26.8%. Other household characteristics such as family size and urban/rural status are not significant.

The introduction of occupation-year interactions in the second model (Table A.4) alters the interpretation of no differences between occupational groups and the reference group, managers/professionals. With the inclusion of these interactions, both production/repair and operator employees allocate significantly more of their expenditures to entertainment relative to managers/professionals. For example, having a primary earner who is a motor vehicle or machine operators (as opposed to a manager or professional) increases the percent allocated to entertainment expenditures from 8.1 to 11.2%, in 1981 and from 7.5 to 10.4% in 2005. Similarly, households of production/repair workers are estimated to allocate 9.6% of their total expenditures to entertainment in 1981 as opposed to managers/professionals who have an estimated value of 11.2% in that year. In addition, the coefficients for interactions between technical/sales occupations and operator occupations and survey year are significant.

This indicates that although the linear effect of time is not significant in this model, households with primary earners in these two categories have significant time trends (.5% increase for technical/sales and 1.1% decrease for operators, relative to managers/professionals), indicating that their proportion of expenditures allocated to entertainment increased over time.

There was a reversal in the direction of the effect of unemployment rate on entertainment spending once occupation-year interactions are included in the model. In the second model, the coefficient for the effect of the unemployment rate variable on entertainment expenditures is positive indicating that a one point increase in unemployment is associated with allocating 3.9% more of total expenditure to entertainment goods and services. Of the entertainment models discussed here, the occupation interaction model is the only one which resulted in a positive relationship between the unemployment rate and entertainment spending. The other five models have significant, negative coefficients for the effect of the unemployment rate on allocation to entertainment.

As in the base model, employment in the government sector is positively associated with entertainment expenditures, while working a greater number of hours per year has a significant, negative effect. Patterns in the effect of household demographic characteristics are consistent with the first model, with age, educational attainment and presence of a black primary earner having the strongest effect on proportion allocated to entertainment expenditures.

The third model includes interactions for employment sector and year. Interestingly, in this model, the main effect for government sector employment is not

significant, though its interaction with time is significant and positive indicating its time-dependence relative to private sector employees. Government employees show a .5% increase in spending on entertainment during the time series. However, the coefficient for the interaction between self-employment and time is not significant despite its larger absolute size (-.011). This is likely due to the substantially smaller number of self-employed persons in the sample. Despite this non-significance, the larger coefficient generated greater change in the predicted level of entertainment allocation when compared to private sector employees. For example, a machine or vehicle operator in the private sector, with average time worked and demographic characteristics is estimated to allocate 6.9% of their expenditures to entertainment in 2005. The same earner working in the public sector allocated 6.7% to entertainment, but as a self-employed worker increased their allocation to 8.9%.

In the third adjustment of the base model, interactions between the number of hours and weeks worked with time are included. Similar to model one, the coefficient for the unemployment rate again shows a negative effect of unemployment on the proportion allocated to entertainment. Although average weeks worked per year is significant in each of the prior models, introduction of an interaction with time rendered both the main effect and interaction coefficients nonsignificant.

For example, a managerial/professional worker in the private sector with an average number of hours (41.1) and weeks (46.2) worked per week is expected to allocate 5.9% of their expenditures to entertainment in 1981 compared to 6.7% in 2005. For employees working only half-time (20 hours per week), the estimated percentage allocated to entertainment fell only slightly to 5.8% in 1981 and 6.6% in 2005. The

interaction between time and the number of hours typically worked in a week is significant in this model indicating a negative, though very small, decrease in the strength of the effect of hours worked per week on entertainment spending during the 24 years covered.

The fifth model predicting entertainment expenditures included an interaction between the unemployment rate and time. This interaction is not significant; indicating that the effect of variation in the unemployment rate on households' entertainment expenditures did not vary over time. However, the main effect for unemployment continues to have a significant, negative effect on spending with a one point increase in national unemployment for the primary earner's occupational group resulting in a 1.4% decrease in entertainment spending.

The final model of entertainment expenditures, presented in Table A.4, is a full model incorporating interactions for each of the occupational characteristics and the annual unemployment rate. Results for each of the occupational main effects and their interactions with time are largely similar to the restricted models described above. Notable features of the full model are the continued significance of the unemployment rate variable in predicting entertainment allocation, the addition of a significant, negative effect of the interaction between the presence of a primary earner in a production/repair occupation and year on entertainment expenditures (the effect of production/repair employment decreased by .8% between 1981-2005) and the now non-significant results for the main effect of hours worked per week on entertainment spending. The size and direction of the effect of demographic and income controls are remarkably consistent across models with age, educational attainment, gender and race having the most

significant effects on entertainment allocation, regardless of the interactions included in the model. Thus the variable effect of time by occupational characteristics has little effect on the underlying relationship between households' demographic features and their entertainment expenditures.

The full model is a good platform for comparing the expected values of two hypothetical households, one which is hypothesized to have low employment security and one with higher employment security. Characteristics of the low-security household are: employment in a service occupation in the private sector with less than full time employment (30 hours is used here) and fewer than 52 weeks of employment (40 weeks used for this example). I select a relatively high unemployment rate of 5.5% for this group. Characteristics of the high employment security household are employment in a managerial or professional occupation in the public sector and full time employment (i.e. 40 hours per week and 52 weeks per year) in a low unemployment environment (2.5% is selected for this example). All demographic features are held constant between the two comparison groups.

For the low employment security group, the estimated percentage of expenditure allocated to entertainment is 5.7 in 1981 and 6.1 in 2005 while the equivalent predicted values for a high employment security household are 6.2 in 1981 and 6.5 in 2005. Thus, increasing employment security seems to be positively associated with greater allocation to entertainment expenditures during this time series.

Comparison of the goodness-of-fit of the described models reveals that the addition of interaction effects to the base model does not generate measurable improvement in the predictive ability of the models. For the base model (all occupational

characteristics, linear effect of time and demographic controls) the value of McFadden's R^2 is .26. This same value is calculated for each of the extended models including the full model with all interactions. However, each of these models did provide a substantial improvement over a demographic control-only model. In this case, including only demographic characteristics of the household and primary earner results in a fit statistic of .18 indicating that the households' allocation of expenditures to entertainment cannot be fully predicted by their demographic and income features.

Household Equipment Expenditures

As with several other expenditure categories that represent relatively small proportions of total expenditure, the distribution for percentage allocated to household equipment expenditures exhibits a substantial right skew. As a result, this variable was log transformed prior to running the regression models discussed below. The natural log transformation reduces, though did not eliminate the right skew of this variable.

Table A.5 presents regression results for models predicting allocation of total expenditures to household equipment. The category for household equipment includes furniture, floor coverings, household textiles (such as curtains and linens), major and small appliances and miscellaneous household equipment. Notably, this category does not include spending on service goods related to the household such as cleaning or repair services. Results for the base model (absent interactions with time) of household equipment expenditure provide an intercept value of .51 however, once transformed this coefficient translates to allocating 13.8% of total expenditures on household equipment for those households in the reference group at the beginning of the times series. The

coefficient for the linear effect of time in this model is $-.02$ indicating a significant decrease of 2 percentage points for each year in the time series. The main effect for occupation-specific unemployment rate is not significant in this model.

Among the occupational categories, households of technical/sales, service and operator employees all have significant, negative coefficients with the largest difference from the reference group (managers and professionals) found among service employees. Households with primary earners who work in service occupations are estimated to allocate 17% less of their total expenditures to household equipment.

In the base model, neither of the sector comparison groups (government sector and self-employed workers) have household equipment allocation levels that are significantly different from the reference group, private sector earners. Similarly, neither the number of hours worked on average each week nor the number of weeks worked in the last year, are significant predictors of household equipment allocation when compared to earners with average levels of these measures.

Many of the demographic controls included in this model have significant effects on the percentage of total expenditures that households allocate to domestic equipment. For example, the amount of after-tax income (in thousands) has a significant, positive relationship with household equipment spending. For every \$1000 increase in after-tax household income, the percent allocated increases .2%. As an example, a household with after-tax earnings of \$60,000 is estimated to allocate 4% more of their total expenditures to household equipment than demographically and occupationally similar households earning \$40,000 after taxes.

Educational attainment is also a significant predictor of household equipment spending with an increase of 1% for each year of additional education for the primary earner. Households with female primary earners spend 7 percentage points more on household equipment while those with married (as opposed to single or divorced) primary earners increase their allocation by 27%. Households with a primary earner who is either black or of other race experience a significant decline in household equipment, relative to households of white earners, of 8 and 23% respectively. Surprisingly, family size is also negatively associated with household equipment allocation. That is, larger households which are often, though not always the result of the presence of children, allocate a smaller percentage of expenditures to household equipment – controlling for marital status and other characteristics. Households in Midwest and Western areas allocate a significantly greater percentage to household equipment relative to households in the Northeast.

The second model of household equipment allocation adds interactions between time and occupational class to the base model. With these additions to the model, the estimated percent allocated by households in the reference category falls to 2.2% from the level provided by the base model. In this model, the only occupational group with a significant main effect coefficient is technical and sales employees. Relative to managers and professionals, households with technical/sales earners allocate 12% less to household equipment. However, the nonsignificant coefficient for the interaction with time shows that the strength of this relationship remains constant between 1980 and 2005. Comparison of the estimated level of household equipment allocation reveals that in 1980, households of manager/professionals are estimated to spend 5.3% of their total

expenditure on household equipment. By 2005, the amount for this group falls to 3.8%. Allocation levels for households of technical/sales employees are 4.7% in 1980 and 3.7% in 2005. Due to the positive (though nonsignificant) interaction between time and technical/sales employment, the difference between the reference and 'test' group in this example narrowed during the time series.

The third model of household equipment allocation incorporated interactions between time and employment sector (while removing the interactions with occupational group). Neither the main effect nor the interaction effects are significant in this model indicating that having a primary earner who is employed in the public sector or who is self-employed does not substantially alter the estimated level of allocation to household equipment relative to earners in the private sector.

In the fourth model, both the main and interaction effects for the number of weeks worked per year are significant predictors of household equipment expenditure. Each additional week of work per year is associated with a .6% increase in household equipment expenditure, though the negative coefficient for the interaction with time indicates that the number of weeks an earner works became a weaker explainer of household equipment allocation over the time series. To examine the effect of weeks, I compare households of earners working 40 weeks per year with those working 52 weeks (including paid vacation). Households of earners with fewer weeks worked are estimated to have spent 5.3% in 1980 and 7.4% in 2005 on household equipment. Among households whose primary earners are fully employed, household equipment allocation rose to 5.8% in 1980 and 7.9% in 2005.

In the fifth model, incorporating an interaction between the national-level, occupation specific unemployment rate and year, both the main effect for the unemployment rate variable and its interaction with year are significant and negative. For each year between 1980 and 2005, there is a 2% decline in the amount that households allocate to household goods. In addition, the negative coefficient for the respective interaction indicates that controlling for time and other covariates in the model, the predictive effect of the unemployment rate on this dependent variable strengthened during the course of this 25 year time series.

In the final, fully specified, model of household equipment allocation, each of the interactions discussed above are included. The only employment-related variables to remain significant in this model are the unemployment rate-time interaction and the main effect and interaction for the number of weeks worked. The cumulative effect of the variables in this model is captured by a comparison of household equipment spending outcomes for more and less-secure households. A household that is predicted to have lower employment security, for example, one in which the primary earner is employed in a service occupation in the private sector and who has lower than average working time, is estimated to spend 4.2% of their total expenditure on household equipment in 1980 and 5.6% in 2005.

By contrast, a higher employment security household, one in which the primary earner is occupied as a manager or professional in the public sector and who is employed full time in a low unemployment context, is estimated to allocate 5.6% to household equipment in 1980 and 7.2% in 2005. Thus, when fully specified, this model indicates

that greater employment security is associated with increased allocation of total expenditures to household equipment, particularly in a low unemployment context.

The predictive strength of each model is compared by calculating an adjusted R^2 measure called McFadden's R^2 . The base model, absent all interactions with time, predicts 15% of the variation in household equipment spending. The enhanced models, including interactions with time do not improve the predictive ability of the model. However, comparison of the base model over a demographic characteristics-only model indicates a substantial improvement from the addition of occupational, unemployment and time measures, yielding an increase from an R^2 of .06 to .15.

Personal Care Expenditures

The category *personal care expenditures* includes services and goods that are generally individual, rather than household, oriented. These include, for example, cosmetics and personal cleaning products as well as services such as haircuts and memberships to health clubs. The distribution of percentage of total expenditure allocated to personal care indicates that this variable has a significant right skew rather than the normal, balanced distribution assumed by the mixed model employed in these analyses. As a result, the natural form of the variables is transformed prior to running the regression models presented below. Log transformation of this variable significantly improves the symmetry of the distribution, though a more modest level of right hand dispersion is still present.

Results from the first model of personal care expenditures are presented in Table A.6. This model includes a variety of occupational and demographic characteristics of the household but does not incorporate interactions between the occupational measures and time, as in later models. The intercept value for the base model is .22 however, after a back transformation performed to adjust for log transformation of the dependent variable, the estimated percent of total expenditures allocated to households in the reference group is 1.5% in 1981 and 1.0% in 2005. The significant, negative coefficient for the linear effect of time in this model is responsible for the lower levels of personal care expenditure (as a percentage of total expenditure) during the later years of the time series. The other macro-level variable present in the base model is the national level, occupation-specific unemployment rate which was also significant and negative. In this model, there is an estimated reduction in personal care expenditures of 4.5% for every one point increase in the unemployment rate.

Five occupational variables are included in this model to compare the effect of occupation against the reference group, managers and professionals. Of these five occupational categories, four have significant and positive coefficients indicating that they are estimated to spend a larger percentage of their total expenditures on personal care than households of managers and professionals, when not accounting for occupation-specific time trends. Two employment sector dummy variables (public sector and self-employment) are included in the model, with private sector employment as the reference category. The coefficients indicate that only the effect of public sector employment is significantly different from private sector employment, with an estimated reduction in personal care allocation of 6% when moving from private sector to public sector

employed primary earners. Both of the interval-level variables for time worked by the primary earner are significant and negative in the base model. In each case, a one unit increase in the time worked (i.e. one hour per week, or one week per year) is associated with a .4% reduction in personal care allocation.

Of the twelve household and individual-level demographic characteristics included as controls in each of the models, nine are significant predictors of the percent of total expenditure allocated to personal care. For example, after-tax household income is negatively related to personal care spending with a 1% reduction in personal care spending for each additional \$10,000 of household income. Households with female primary earners spend an average of 15% more on personal care than those headed by male earners, and those headed by black primary earners spend 48% more on personal care than households headed by whites. Family size, residence in an urban area and location in a Midwest or Western location (as opposed to the Northeast) each have a significant, negative effect on personal care allocation.

The second model of personal care expenditure presented in Table A.6 adds interactions between occupational group and year to the previously described base model. In this model, the linear effect of time continues to have a negative relationship with personal care spending such that, controlling for occupation-specific time effects, the percentage of total expenditure allocated to personal care declined over time. The effect of the unemployment rate measure is stronger in this second model, with a one percentage point increase in the national unemployment rate resulting in a 9.4% reduction in personal care allocation. Coefficients for all five dummy variables for occupation are significant and positive when compared against the reference group, managers and

professionals. This means that all five comparison occupational groups have higher levels of personal care expenditure than households of managers and professionals. However, in four of five cases, the interaction between the occupational group and time is negative (three of four are significant) indicating that the difference between the reference group and 'test' occupation groups declined between 1981 and 2005.

As an example of this comparison, households of managers and professionals, working in the private sector, are predicted to spend 1.05% of their total expenditures on personal care in 1981 and .78% in 2005. Households whose primary earner is a machine or vehicle operators, but with otherwise identical employment and demographic characteristics, are predicted to spend 2.6% of their total expenditure on personal care goods and service in 1981 and 1.0% in 2005. While the difference between these groups is relatively substantial during the early years of the time series, by 2005 their levels of personal care allocation are almost equivalent.

In the third model of personal care expenditure, occupational interactions are replaced by interactions between employment sector and survey year. In this model, the effects of time and the unemployment rate are virtually identical to model two. The main effect for employment in the public sector is significant and negative in comparison to employment in the private sector however, no significant difference is observed between households supported by private and self-employed workers. Neither of the interaction effects between employment sector and time are significant in this model indicating that the difference between workers in these sectors and in the private sector experienced no significant change during this time period.

The fourth model of personal care allocation contains interactions between the number of hours and weeks worked by the primary earner and time. Main effects for both time worked variables are significant and negative in the model. For example, each additional paid week of work performed by the primary earner results in a .7% decline in the percent of total expenditure allocated to personal care. For households whose primary earner is underemployed during the survey year, for example with 35 weeks of paid work rather than 52, a decrease in percent allocated of almost 12% is observed. While the interaction between weeks worked and time is significant, the coefficient is very small (.001), indicating little change in the relationship between weeks worked and personal care expenditure over time.

To compare the combined effect of time worked on personal care spending, the percent allocated to this category of goods is compared for households of private sector technical and sales employees. For workers in this category who are underemployed (25 hours per week and 35 weeks per year), the estimated percent spent on personal care in 1981 is 1.5%. By 2005, that level falls to .9%. For households of fully employed, 40 hours per week and 52 weeks per year (paid vacation time included) technical/sales earners, the percent allocated to personal care is only 1.2% in 1981 and 1.0% in 2005.

In the fifth model of personal care allocation, an interaction for the effect of the occupation-specific unemployment rate and time is added to the model. In this case, both the main effect of the unemployment rate variable and its interaction with time are significant and negative. Each one point increase in the national unemployment rate for the primary earner's occupational group is associated with a 6% decrease in the proportion of total expenditure allocation to personal care goods and services. This effect

is strengthened over the course of the time series such that, by 2005, a one point increase in the unemployment rate results in a 10.8% reduction in personal care allocation.

During periods of increased employment insecurity, households reduce spending on personal goods, either reallocating those dollars to other goods or savings.

The final, fully specified model of personal care expenditure includes all of the interaction terms described above. In this model which controls for employment-specific time differences, the size of the intercept, or the level of allocation for the reference group, is almost twice the magnitude of the intercept in the base model. The main effect of the unemployment rate variable continues to be significant and negative, though the coefficient for the interaction suggests that the negative effect remains consistent between 1981 and 2005. As with model two, all main effect coefficients for occupational category are significant and positive in comparison to the reference group, managers and professionals. In four out of five of these cases, the positive effect on personal care, relative to managers and professionals, became less sizeable over time.

In this full model, the effect of public sector employment is no longer significantly different from private sector employment, with that pattern remaining constant over time. The magnitude and significance of the coefficients for working time are identical to the more restricted, fifth model that included these interactions. In general, the amount of working time is negatively associated with the percent of total expenditure allocated to personal care. Similarly, the size, direction and significance of the coefficients for each of the demographic control variables are remarkably consistent between the base and fully-specified models.

To examine the cumulative effect of occupational characteristics and their interactions with time during this 24 year period, a comparison is performed between households whose primary earners are hypothesized to be securely employed and those with less secure employment. Households whose primary earners are predicted to have higher levels of employment security (e.g. full-time employees in managerial or professional occupations in the public sector, working under conditions of low unemployment) are predicted to have allocated 1% of their total expenditure to personal care in 1981 and .5% in 2005. In contrast, households of less securely employed workers (e.g. part-time employed, service employees in the private sector working in a high unemployment environment) are predicted to allocate 1.5% of expenditures to personal care in 1981 and .75% in 2005. Thus, at both ends of the times series, employment insecurity is associated with an increase in personal care allocation, although this effect is of greater magnitude during earlier years.

Utility Expenditures

Regression results for the percentage of total expenditures allocated to utilities are presented in Table A.7. As with many of the other expenditure categories examined here, in its original form, the distribution for this dependent variable exhibits a significant right skew. In order to partially correct this imbalance, this variable is log-transformed prior to the analyses below. Examination of the distribution following transformation reveals an increase in the measure's symmetry. To account for this transformation in the following discussion, coefficients for the various covariates are multiplied by 100 in order to

estimate the effect on the dependent variable for each one unit increase in the predictive measures.

The first model presented in Table A.7 is a base model that includes occupational and demographic characteristics of the household as well as the linear effect of time and the occupation-specific unemployment rate. Interactions between these variables and time are presented in later models. Regression results show that the baseline level of utility expenditures for the reference group, without accounting for either time or unemployment effects, is 1.3% in 1980 and 1.5% in 2005. The significant coefficient for time in this model indicates that for each year during this time series, the percent of total expenditure allocated to utilities increases .8%. Although the unemployment rate measure is not significant in this base model, all five of the occupational classes have significantly different levels of utility allocation than the reference group, managers and professionals. Households of farm workers are the only group with lower levels of utility expenditures, while the remaining four categories have significantly higher levels of allocation. For example, switching from having a primary earner who is employed in a production or repair occupation is associated with a 7.9% increase in utility allocation as opposed to a demographically and occupationally identical household whose primary earner is a manager or professional.

Neither of the coefficients for sector (public or self-employed) reveal a notable difference between households of primary earners in those sectors versus the reference group, private sector employed earners. While the number of hours worked per week is also nonsignificant, number of weeks worked per week does have a significant and positive relationship with utility allocation. For each additional week of work reported

by the primary earner, the household allocates .1% more of their total expenditures to utilities.

Examining the coefficients for demographic characteristics in the model indicates a strong relationship between these control variables and utility spending. Eleven of the twelve demographic characteristics are significant in this base model. Most notably, after-tax household income is associated with a 4% decline in utility allocation for every \$10,000 increase in household income. The age of the primary earner also has a substantial effect on utility spending with a 1.1% increase in the percent allocated for every additional year of age for the primary earner. Other significant predictors of utility spending include the sex of the primary earner - having a female primary earner is associated with a 11.7% increase in utility allocation over households with male earners, and urbanicity is associated with a 8.7% increase in utility spending over urban households. The outsized effects of income, age and urbanicity are likely linked with the size of the household's primary dwelling as utility use is directly linked with both the size and type of residential property.

Results for the second model of utility allocation include interactions between each of the occupational classes and time. In this model, both the intercept value and the coefficient for the linear effect of time remain consistent with the base model. Interestingly, although all five comparison occupational groups are significant in the base model, only the main effect for farm work remained significant once interactions with time are introduced. There are significant and positive coefficients for the interaction effects between time and technical/sales, service and farm employment, when compared against managers/professionals. This indicates that the difference in utility spending

between each of these groups and the reference group increases during the time series. As an example of this change, while farm employees are estimated to have allocated 4.3% of their total expenditures to utilities in 1980 and 8.4% in 2005, managers and professional employees allocate 6.7 and 7.1% in 1980 and 2005, respectively. These differences demonstrate the substantial impact of the main effect for farm employment, which results in a decrease of 3.4% from the reference group in 1980, as well as the interaction effect conveys a reduction of 1.3% in the difference between the two occupational groups by 2005.

The third model presented in Table A.7 presents the results of the base model enhanced with interactions between employment sector and time. Here, the coefficient for government sector is positive and significant with the resulting interpretation being that households with primary earners in the public sector allocate 7.4% more of their total expenditures to utilities when compared with households of private sector employees. In addition, the interaction between public sector employment and time is significant and negative such that the difference between public and private sector employees decreases between 1980 and 2005. Neither the main effect, nor the interaction effect for self-employment is significant in this model.

In the fourth model, which incorporates interactions between hours and weeks worked and time, the number of weeks worked in the last year has a significant, positive effect on utility spending. Each additional week of work reported by the primary earner is associated with a .5% increase in utility allocation. The negative, though small coefficient for the interaction between this measure and time suggests that the effect of

weeks worked per year on utility spending declined between 1981 and 2005. Hours worked per week is not a significant predictor of utility spending.

The fifth specification of this model introduces an interaction between the national, occupation-specific unemployment rate and time. Both the main effect for the unemployment rate and its interaction with time are significant and negative. For each one point increase in the unemployment rate, households decrease their allocation of expenditures to utilities by 2%. The negative coefficient for the interaction indicates that this effect becomes more substantial toward the end of the time series such that, by 2005 each one point increase in unemployment rate results in a 6.8% decrease in utility allocation. Interestingly, while the base model provided significant coefficients for all five occupational classes, the fifth model which differs only in its inclusion of the unemployment rate interaction had no significant coefficients for occupational class. This suggests that the occupation-based effects in model two masking the effect of occupation-varying unemployment rates on utility spending. This is affirmed by the results for the full model, discussed next, in which the coefficients for occupation continue to be nonsignificant.

In the final, fully specified model of utilities spending, each of the previously discussed interactions is included. The nonsignificant coefficient for time indicates that, controlling for other covariates in the model, there is no significant time trend in utility spending between these years. While the main effect for the unemployment rate variable is also nonsignificant, its interaction with time provides an estimated .3% increase in the magnitude of the effect of unemployment on utility spending between 1981 and 2005. Results for this model show that occupational category and sector are not significant

predictors of utility spending in the fully specified model with similar findings for each of their interactions with time. Among the occupational measures, only weeks worked in the last year is a significant predictor of utility spending. Each additional week of work performed by the primary earner results in a .6% increase in utilities spending. When comparing fully employed or salaried workers against those who experienced underemployment (e.g. 40 weeks per year), we see a difference of 7.2% in allocation to utilities.

There are several small changes in the coefficients for demographic control variables included in the full model. Most notably, the effect of age on utility spending is now negative, while conversely, the effect of education increases slightly and has a positive relationship with utility spending once interactions with time are incorporated. The overall effect of race and Midwest location increase in this final model relative to model one.

To assess the cumulative effect of the main and interaction effects in the final model, I compare predicted levels of allocation to utilities for two households, one in which the primary earner is hypothesized to have secure employment conditions and one in which the earner's employment conditions are less secure. The more secure household, one in which the primary earner is a manager or professional in the public sector working a full time, year round schedule in a low unemployment environment (2.5%), is estimated to allocate 3.2% of their total expenditures to utilities in 1981 and 4.1% in 2005. By contrast, a household with a primary earner who is less securely employed, for example, a worker who operates machinery or a motor vehicle, in the private sector who has worked a part-time, intermittent schedule in the last year with a

high, occupation-specific unemployment rate (6.5%), is estimated to have spent 2.9% in 1981 and 4.0% in 2005. Demographic characteristics of the household and primary earner are kept constant in this comparison. Thus, toward the beginning of the time series, greater employment security is associated with higher utility spending but by the end of the time series, the employment security related effects have been reduced such that only a .1% difference exists between these two case examples.

The predictive strength of each of the previously described models is assessed through comparison an adjusted measure of explanatory power, McFadden's R^2 . The base model, absent all interactions with time, predicts 34% of the variation in utilities spending. The enhanced models, including interactions with time, do not demonstrably improve the predictive ability of the model. However, comparison of the base model over a demographic characteristics (control variable) only model ($R^2 = .27$) indicates a substantial improvement from the addition of occupational, unemployment and time measures.

Short-term Expenditures

In the last two sections of this chapter, I examine the effect of occupational and demographic characteristics on households' allocation of resources to a group of expenditure categories which I identified as short-term oriented. This new composite expenditure category is calculated and analyzed in response to this study's particular interest in expenditure allocations as an indicator of the long or short-term financial orientation of the household unit. As discussed in Chapter 7, the categories that compose the short-term measure were chosen for their greater association with short-term

priorities, such as immediate entertainment or use value, as opposed to longer term priorities such as the desire to build the social or economic capital of household members. The CEX expenditure categories selected as part of the short-term measure are: percent of total expenditure allocated to food away from home (restaurant and take-out eating), apparel, alcohol, entertainment, household equipment and travel lodging. It is important to emphasize that not all spending in these categories can be interpreted as short-term oriented. Indeed, households are generally obligated to allocate at least some income to apparel, household equipment and entertainment. In addition, a variety of structural features of the household, such as the presence of two earners and full-time work schedules are likely to increase the percent of food dollars spent at restaurants. However, the relative amount of financial resources allocated to these categories, as opposed to longer-term oriented categories, provides insight into the financial orientation of household members.

Table A.8 presents results of the regression of short-term expenditures on occupational and demographic features of the household. In the base model, the intercept, after back transformation to account for the log-linear form of the dependent variable, provides a predicted level of short-term expenditure allocation of 39.7% for households in the reference group, with all other variables in the model set to zero. From this base level, results show that the linear effect of year between 1980 and 2005 is negative, with each year resulting in a 2% decline in short-term spending. This finding does not support the anticipated effects discussed in Hypothesis 5 which hypothesized that short-term spending, as a proportion of total spending, would increase over time. As a whole, respondents reduced their allocation to short-term goods and services during this

time period. There is also a negative relationship between the national unemployment rate and short-term allocation, with a one-point increase in the occupation-specific unemployment rate resulting in a 2% decrease in short-term spending.

Among the five dichotomous occupational measures in the model, two categories, technical and sales workers and machine and vehicle operators have significantly different levels of short-term spending than the reference group, managers and professionals. Households of technical and sales workers are predicted to spend 3% more on short-term expenditures and those of various operator occupations are predicted to spend 6% more than managers and professionals. The remaining three occupational categories are not significantly different than this base group. Thus, the main effects for occupational category generally support Hypothesis 7 which anticipates that households of workers with less secure employment conditions (e.g. employment in a technical/sales or operator occupation) spend a greater proportion of household income on short-term expenditures.

Employment sector is not a significant predictor of short term spending in the base model, with nonsignificant coefficients for both the public sector and self-employment indicators when compared to workers in the private sector. Among the time worked variables, hours worked per week and weeks worked per year, only weeks worked per year is significant with a .3% decline in short-term spending for every additional week worked per year. Comparing salaried workers who generally work 52 weeks per year including paid vacation time against under-employed earners working 35 weeks per year, the difference in short-term allocation is estimated to be a substantial decline of 5.1%.

All of the household and earner-level demographic control variables included in the model are significant with the exception of urban/rural location. After-tax household income is positively associated with allocation to short-term expenditures with each additional \$1000 of income resulting in a .2% increase in short-term spending. Similarly, each additional year of education is predicted to increase short-term spending by 1%. The majority of other control variables have a negative relationship with this spending category. For example, each additional year of age of the primary earner reduced allocation by .7%. Having a female or married primary earner is estimated to decrease short-term spending by 5% over male or unmarried earners, respectively. When compared to households with white primary earners, having a primary earner who is black or of 'other' race results in a substantial (14%) decline in short-term allocation. Finally, increasing size of the family unit and residence in the South or West, as compared to the Northeast, each result in a significant decline in allocation to short-term expenditures.

The second model presented in Table A.8 adds interactions between each of the occupational measures and year to determine whether occupation-specific time trends exist in short-term spending patterns. The intercept value, as well as the coefficients for the linear effect of time and unemployment rate is similar to those in the base mode. After controlling for these interactions effects, employment in a technical or sales occupation is no longer significant, though the effect of operator employment strengthened considerably to an estimated 13% above the level of managers and professionals. None of the coefficients for interactions between occupational categories and time are significant in this model. Thus, while the estimated levels of spending for

managers and professionals is 25% in 1981 and 16.8% in 2005. Operators experience a similar level of decline (28.4% to 17.8%) during that period. Operators have significantly higher levels of short-term allocation in both years however; the observed decline between the two groups is not significantly different.

In the third model of short-term allocation, interactions between employment sector and year are added to the base model. Similar to the results in the earlier models, coefficients for public sector and self-employment are non-significant when comparing spending levels against private sector employees. The effect of the interaction between time and these two variables is positive in both cases, but non-significant.

In the fourth model, interactions between the two time worked variables and time are included in the model. Weeks worked per year continues to be a significant predictor of short-term spending, though there is no significant difference in the time trend according to the number of weeks worked per year. While the main effect of hours worked per week is not significant, there is a modest, significant negative effect for the interaction between hours worked and time.

An interaction between the national, occupation-specific unemployment rate and time is included in the fifth model of short-term spending. The main effect of unemployment rate variable continued to be significant and negative, with a one point increase in the unemployment rate resulting in a 2% decline in short-term spending. The interaction between the unemployment rate and time is also significant and negative in this model, indicating that the effect of unemployment level increased over the time period examined. For example, in 1981 the predicted percent of total expenditure allocated to short-term expenditures for private sector operators during a low

unemployment period (2.5%) is 31%. In 2005, the level of spending predicted at the same unemployment rate is 25.3%. However, at a relatively higher unemployment level (6.5%), the estimated percentage allocated to short-term spending fell to 28.7% and 23.4% in 1981 and 2005, respectively. Interestingly, once the interaction between time and the unemployment rate is added to this model, each of the main effects for occupation are significant. This suggests that occupational differences in short-term spending between managers/professionals and each of the less secure occupational categories is masked in earlier models by time-dependent trends in the unemployment rate.

The full model of short-term expenditures includes each of the interactions with time discussed in earlier models. Results are largely consistent with the more restricted models. The linear effect of time, the unemployment rate and its interaction with time are all negative and significant as in earlier models, indicating a reduction in overall spending on short-term goods during this period. Surprisingly, only the main effect for having a primary earner who is an operator is significant in this model, despite the significant results for all occupation groups in Model Five. The interactions between two occupations (technical/sales workers and farmers) and time are significant in the model; in both cases, positive coefficients indicate that the difference between these groups and the reference group, managers and professionals, increased between 1981 and 2005.

Results for the main and interaction effects for employment sector continue to be non-significant predictors of allocation to short-term expenditure categories. Similarly, the coefficients for each of the twelve demographic control variables are consistent with

the base model, with significant results for all measures with the exception of urban/rural location.

Comparing two households, one hypothesized to have high occupational security and one with relatively low levels of occupational security, allows for an assessment of the cumulative predictive effect of the measures covered above. The estimated percent of total expenditure allocated to the household of a primary earner with low employment security – a self-employed worker in a technical or sales occupation, working 30 hours per week and an average of 37 weeks per year in a high unemployment security context – is 25.3% in 1981 and 25.5% in 2005. By contrast, the allocation to short-term goods for the household of a more secure earner – a manager in the public sector, working full time, in a low unemployment context is 23.4% in 1981 and only 18.6% in 2005. Thus during this time series, workers with greater security reduced their allocation to short-term expenditures while households with less secure earners maintained higher levels of short-term allocation over time.

The predictive strength of each model is evaluated using the model's adjusted R^2 . The base model absent all interactions with time, predicts 37% of the variation in short-term spending. The enhanced models, including interactions with time, do not demonstrably improve the predictive ability of the model. However, a comparison of the base model over a demographics-only model indicates a substantial improvement from the addition of occupational, unemployment and time measures. The control-only model yielded a R^2 of only .29.

Long-term Expenditures

To complete the analysis of how occupational characteristics affect households' short and long-term orientation in spending, I calculate a dependent variable that aggregates CEX expenditure categories determined to be predominately long-term oriented. To be clear, this variable is not simply the inverse of the short-term expenditures discussed above. In each case, I select a subset of variables that I determined best fit the concept of short and long term. For the long-term category, this includes expenditures that are substantially affected by households' immediate needs (e.g. food at home, housing, medical care, utilities) or by a concern for the household's long-term stability and well-being (e.g. education, personal insurance and life insurance). Some categories, such as owned dwellings, meet both of these criteria. However, there are many expenditure categories that are not included in either the long-term or short-term aggregate variables (e.g. cash donations, personal care, public transportation). These remaining variables are absent from the aggregate categories because their use is determined by short-term and long-term motivations. Following are results of regressions of the long-term expenditure variable on households' demographic and occupational characteristics.

Table A.9 contains the regression results for the percent of total expenditure allocated to long-term oriented spending. For the base model, which includes all occupational and demographic characteristics as well as categorical variables measuring time and the annual unemployment rate, the predicted percent of total expenditure allocated to long-term spending is 19.3% when all values are held at zero. This percentage is calculated using a back-transformation of the intercept in which the intercept and error are exponentiated and multiplied together. As discussed on page 227, this additional step is necessary because after regressing a log-transformed variable, the

resulting intercept and other coefficients can no longer be interpreted without consideration of the error. In this case, an intercept value of 2.82 results in a predicted expenditure level of 19.3% after incorporating the error term.

Positive and significant coefficients for time and the unemployment rate indicate that each factor results in a 1% increase in long-term spending for each year and unemployment percentage point increase. This finding runs contrary to the expected effect captured in Hypothesis 6. Specifically, Hypothesis 6 anticipates that allocation of household income to long-term oriented expenditures decreased over time. However, the results of this base model suggest that, in fact, there is an increase in long-term expenditures between 1980 and 2005.

All five of the occupational groups have significantly lower levels of long-term spending than respondents in the managers/professionals group. For example, households whose primary earner is a farm worker spend, on average, 8% less on long-term oriented expenditures than managers and professionals, while households of operators spend 7% less. These findings support the expected patterns in Hypothesis 8 which state that households of workers in less secure occupations allocate a smaller proportion of total income to long-term goods, relative to the more secure group, managers and professionals. Thus, it seems that while long term expenditures increased for the sample as a whole, greater occupational security is predictive of increased spending to long-term goods and services.

The significance of occupation in predicting long-term spending outcomes, coefficients for employment sector of the primary earner indicate that sector is not a significant predictor of long-term expenditures. However, both hours and weeks worked

do have a positive and significant effect. For example, when comparing otherwise similar households - those with primary earners working only half of the average number of hours and weeks - allocation levels in 1981 are 28.9% while in 2005, the percentage was 37%. By comparison, the households of primary earners working 40 hours per week and 52 weeks per year allocate on average, 36.6% of total expenditures to long-term goods, while in 2005 it is 46.8%.

All 12 demographic and income measures used as controls in the model are significant, aside from educational attainment and residence in the South (as opposed to the Northeast). Most notably, each \$1,000 increase in household income results in a .2% decrease in long-term expenditure allocation. Having a female primary earner, residing in an urban area and in the Midwest are also associated with significant decreases in the percentage of total expenditures allocated to long-term goods and services. Conversely, the primary earner's age, household size and having a primary earner who is black or of other race (as opposed to white), is associated with a significant increase in long-term spending.

The second model presented in Table A.9 adds interactions between each of the occupational measures and year to determine whether occupation-specific time trends exist in long-term spending patterns. All five of the occupation-year interactions are positive and significant, with a 1% increase in long-term spending for each year in the time series for all occupation groups. Interestingly, adding these interactions strengthened the main effects for each occupation group when compared against households of managers and professionals. For instance, when accounting for occupation-specific differences in the effect of time, households of service employees are

predicted to spend 31% less on long-term goods than those of managers and professionals. This is a substantial increase from the 5% reduction found from the base model. A similar strengthening of the effect is evident among households of farm and operator workers. This suggests that over-time changes in long-term spending mask differences between occupational groups in the first model. Once those are captured by the interaction effects, stronger occupational differences are observable. Aside from the change in coefficient magnitude, coefficients for all other variables in second model are similar to those in the base model.

The third model of long-term spending adds interactions between employment sectors and time to Model One. Coefficients for year, unemployment level and occupation are similar in to the base model, with smaller effects for occupation once the interactions in Model Two are removed. The coefficients for the main effect of sector shift from negative to positive in this model, although they continue to be non-significant. However, the coefficient for the interaction between a government sector primary earner and time is significant in this model, with a .3% decrease in long term spending for government sector employees relative to those in the private sector. The presence of a self-employed earner does not result in significantly different rates of long-term allocation to households with a private sector earner.

The fourth regression model adds interactions between working hours and time to the base model. Here, the main effect of time is slightly increased from earlier models, with a 5% increase in long-term spending for every year in the time series. Coefficients for the main and interaction effects for weeks and hours worked are significant at the .05 level, though the size of the interaction effect is quite small. To illustrate, a household

whose primary earner is underemployed working 30 hours per week and 35 weeks per year, allocated 28.3% of their spending to long-term goods in 1980 and 83.6% in 2005. By contrast, households with a fully employed primary earner allocated 37.5% in 1980 and 91.7% in 2005. This effect is present while controlling for household income and thus does not seem to be the result of differences in available income between households.

The fifth model of long-term spending adds an interaction between the unemployment rate and income to the base model. The main effect for the unemployment rate on long-term allocation remains significant however; the interaction term is nonsignificant indicating that the effect of national, occupation-specific, the unemployment rate measure has a consistent impact on long-term spending during this time-series. Coefficients for the five occupation groups that are compared against managers and professionals are all significant but the magnitude of some of those effects, for example service, farm and operator workers increase noticeably in the fifth model, when compared to earlier models that did not account for changes in the unemployment rate over time.

The final, full model of occupational and demographic characteristics on long-term spending allocation includes each of the interaction terms present in models one through five. The linear effect of time in this model is significant and more sizeable than in the base model, with a 5% increase in long-term spending for each year in the time series. Similarly, both the main and interaction terms for the unemployment rate are significant with the interaction showing a decrease in the salience of the unemployment rate on long-term spending. The magnitudes of the coefficients for occupation are

substantially larger in this final model. Again, all five occupation groups are significant and negative with farm, service and operators having the greatest difference in spending from managers and professionals. For example, households of operators spend 33% less on long-term oriented goods and services than households of managers and professionals. All of the interactions between occupation and year are significant and positive, with approximately a 1% increase in the effect of each occupational group on long-term spending for each year in the time series. Employment sector continues not be predictive of long-term spending, with both sector main effects non-significant when compared to the reference group of private sector employees. The interaction for government employment is negative and significant (although quite modest in size), indicating a small decline in the effect of government employment on spending over time.

Both measures of work time are significant in this model, with increasing work-time resulting in greater allocation to long-term expenditures. However, the negative direction of the interaction coefficients results in a small decline in the impact of work-time on long-term expenditure during this 25 year period. Finally, the coefficients for each demographic control variable are quite similar to those in the base model, with each having a significant effect on long-term spending with the exception of residence in the West region of the country. Both household income and education level of the primary earner have a negative relationship with long-term spending after controlling for occupational characteristics and their interactions with time.

The analyses in this chapter present the results of 54 regression models using nine dependent measures of household consumer spending. The dependent variables were chosen from among the expenditure categories in the Consumer Expenditure Survey;

they reflect short-term or long-term oriented spending¹⁰. A summary review of the results across dependent variables reveals themes that both support and disconfirm the hypotheses laid out in Chapter 5.

Analysis of the seven individual expenditure variables indicates a mixed response to the hypotheses underlying these models. The effect of job insecurity measures varies in direction as well as significance and, at times, is not in accordance with expected patterns. For example, in contrast to expectations, managers and administrators spend more money on food away from home than individuals in less secure occupations, while government sector employees spend more on entertainment than those in the private sector. However, other results for the individual expenditure categories support hypotheses. For instance, service and operator employees spend fewer of their food dollars on food at home than managers and professionals, while the production/operator occupational effect on entertainment spending, relative to that of managerial and professional occupations, is positive (though this effect diminished over time).

Comparison of the results across the nine expenditure variables finds that the categories measuring spending that is largely discretionary in nature (e.g. entertainment, personal care, household equipment) are more frequently consistent with hypotheses predicting an effect of job insecurity on spending behavior. Virtually all of the results associated with spending on personal care are significant and in the expected direction. In addition, the results for entertainment spending are similarly supportive of hypothesized effects. But regarding the results for utility and education spending – two categories that are less discretionary (and are also designated as long-term oriented), the

¹⁰ Note: two of the nine categories are aggregate groups of expenditure categories that are intended to reflect these two concepts through compiling the spending of multiple, related categories.

measures of employment insecurity are much less successful predictors of spending habits. The greater ability of the occupational coefficients to predict short-term spending is also notable in the greater size of the fit statistics for those models. The individual short-term oriented expenditure categories have McFadden's R^2 values of .34 (food away from home), .26 (household equipment), .15 (entertainment) and .15 (personal care) while the long-term oriented expenditure categories have R^2 values of: .17 (food at home), .11 (education), .34 (utilities).

This suggests that spending on discretionary goods and services is more susceptible to the effects of household job insecurity than goods and services whose spending is constrained by the need to provide for the basic needs of the household. Spending on discretionary items seems to have a greater ebb and flow depending on the financial well-being of the household at a given time. In contrast, spending on food, housing, utilities and similar items is far less fungible.

One long term spending category that warrants special attention is education. Coefficients for the insecurity measures in the full model of education spending reveal differing effects. For instance, production/repair workers spend more on education than households of managers and professionals, and government sector workers spend more than private sector workers – results that are consistent with the hypothesized effect of being in a more stable occupational group. However, the number of hours and weeks worked had a negative effect on education spending – a finding that contradicts expectations. Overall, the models of education spending were more weakly specified than the other expenditure categories, with a R^2 statistic of only .11. These results suggest that education spending is influenced more substantially than other expenditure

categories by characteristics apart from the insecurity ‘profile’ of the household, such as the age and employment status of household members. This finding is an example of how employment insecurity has limitations as a predictor of spending behavior, particularly when other features of the household, for example, the presence of children requiring education, impose constraints on household members’ ability to *decide* where to allocate their financial resources.

Interestingly, the degree to which the occupational measures included in these models are effective in predicting levels of expenditure is also affected by whether the dependent variable is a single or aggregate (i.e. the short and long term aggregate categories) expenditure group. As mentioned, the results for the individual categories provide mixed support with respect to the formal hypotheses described in Chapter 5. However, this inconsistency all but disappears when examining the results for the two aggregate categories. For example, operators spend more than managers on the bundle of goods and services included in the aggregate ‘short-term’ category, and also the size of the effect on short-term spending of being in a technical, sales or farm occupation, relative to managers, increased during this period (though the main effects are not significant). For long-term spending allocation, all occupational groups allocate a smaller proportion than managers and professionals and the strength of that effect increased during this time period. The number of hours and weeks worked also has a positive effect on allocation to long-term expenditures. The fit statistics for models of these two variables also demonstrate the better predictive ability of occupational measures for the aggregate groups. The R^2 values in the short-term and long-term

models are .37 and .33, respectively as compared to between .11 and .34 for the individual groups.

It is not known why the effect of insecurity measures on the aggregate categories has greater fit with the hypotheses than with regard to individual expenditure categories. It may be due to a better ‘match’ between the expenditures from which these measures are composed and the underlying concepts of short and long-term oriented goods. It may also be that combining categories reduces the relative within-household volatility that can play a more dominant role in spending on individual categories of goods. That is, the level of spending in a single category is influenced by a small number of purchases and thus is more easily affected by conditions within the household. Broader measures of spending such as the two aggregate expenditure categories are less affected by temporary conditions and thus may represent a more accurate (stable) picture of the household’s tendencies in much the way that a statistical average summarizes dispersed data.

Another pattern across dependent variables is the limited salience of the interactions between time and the job insecurity measures. In summary, the hypotheses tested by these models anticipate that interactions with time will be significant and in the positive direction, indicating a strengthening effect of differences in insecurity on households’ spending behavior over time. For example, it is hypothesized that private sector employees spend more on entertainment and personal care than government employees when controlling for other characteristics, and that the strength of this effect will increase over the course of the time series (due to the especially insecure context of more recent years). However, of the 90 interaction effects included in the full regression models (model 6); only 26 are significant at the .05 level – 10 in the positive direction

and 16 in the negative direction. The interaction between time and the unemployment rate is the most consistently significant. This suggests that, on the whole, the effect of being in a more or less secure occupational category was stable between 1980 and 2005. One explanation for the non-significant interaction effects is that the degree of job-related insecurity experienced by workers in a variety of occupations is becoming more similar over time. That is, from the perspective of job insecurity, earners in managerial and government sector positions have, over time, become more similar to earners in historically less secure occupational groups. While having a middle class or government-sector job generated significant occupational security in the 1980s and earlier decades, in recent years such positions have provided less assurance of job security. This explanation is supported by the GSS analyses presented in Chapter 6 which show growth in insecurity during this time and also a convergence of insecurity experience between working and middle class workers.

Most of the positive interactions with time are associated with the occupational categories in the full models of long-term and short-term (aggregate category) expenditures. For example, managers and professionals spend significantly more on long-term goods than all other occupations, and this difference grew over time. This finding is consistent with the anticipation of more risk averse spending behavior over time among those with secure occupations.

CHAPTER NINE: CONCLUSION

Introduction

This chapter synthesizes results from chapters 6 through 8 and summarizes the most important conclusions from those chapters under three main topics: 1) overtime change in the connection between occupational characteristics and perceived insecurity, 2) a discussion of the salience of the concepts of short and long-term spending, and 3) an summary of what the regression results suggest about occupational differences in spending cross-sectionally and over time. The next section situates these findings within the Sociological and Economic literatures on consumer behavior, and describes how they provide empirical support for and refutation of those theories. Chapter 9 concludes with a discussion of some weaknesses associated with this analysis, including measurement limitations and suggestions for enhancement of this work to extend our knowledge of how households' employment insecurity affects their allocation of economic resources.

Temporal Change in the Link between Occupational Characteristics and Perceived

Insecurity

The relationship between an earner's employment characteristics and the spending behavior of their household is mediated by several conditions, among them the degree of insecurity generated by that earner's occupational context. Chapter 6 presented results from the GSS describing differences in respondents' level of insecurity over time and among different occupational and demographic groups. These results demonstrate

that occupational differences affect the degree of respondents' perceived job insecurity, as measured by their perception of the likelihood that they will lose their job in the next twelve months and their perception of the difficulty of obtaining a replacement position if such a job loss occurred. Significant differences in the extent of job insecurity are evident across a variety of occupational groups, as well as over time. After accounting for over-time variation in the national unemployment rate, a step discussed in Chapter 6, levels of job insecurity indicate occupation-based differences across the 24 years between 1981 and 2005. However, the most salient conclusion to be drawn from this analysis is the declining role of most occupational characteristics in predicting an individual's level of job insecurity. While all groups experience an increase in insecurity during this period, by the end of the time series, differences between the previously 'secure' and 'insecure' groups have largely diminished resulting in higher levels of insecurity that are broad-based rather than occupationally pre-determined.

The Role of the Unemployment Rate

The initial discussion of job insecurity over time, including levels of the two GSS component variables that compose this measure suggest that while there is notable volatility in aggregate levels of job insecurity during this time series, the net change between 1981 and 2005 is small and in the negative direction (see p. 118). While this is initially surprising, examination of the time trend indicates that there is a close association between perception of job insecurity and periods of economic growth and retraction. In addition, the correlation between the likelihood of job loss and job replaceability tracks closely with the unemployment rate with a larger correlation

between these variables during periods of higher unemployment. As this analysis is focused on respondent-level differences within given economic and social contexts, I conduct most analyses after controlling for the national unemployment rate.

Reexamination of the time trend, after purging the effect of the annual unemployment rate reveals a positive time trend for both GSS insecurity related variables, and the aggregate measure analyzed here. This indicates that, holding unemployment rate constant; respondents reported increasing levels of job insecurity as time progressed.

Middle-class Respondents Experience More Growth in Job Insecurity

Much of the literature on recent changes in job insecurity has highlighted the decline in job security among occupations that were previously perceived as secure. The distinction between the well-being of working class and middle-class individuals is salient to this discussion because this class-based characteristic has historically been a useful marker for distinguishing between workers with secure, ‘careers’, and those with insecure ‘jobs’. However, the ‘return’ in job security offered by higher paying, benefit-offering occupations and higher levels of education declined in recent decades such that working class and middle class individuals now have similar experiences with regard to job insecurity. The analyses in Chapter 6 provide empirical evidence of this trend; while in 1981, predicted levels of job insecurity were lower (around 1.7 on a scale of 0 to 3) among middle class respondents than those in the working class (approximately 2.2 out of 3), the larger slope of the predicted trend line for the middle class resulted in nearly identical levels of job insecurity by 2005.

Within each of these groups, trend lines for specific occupations, irrespective of education level, show greater variation. Among those in working class occupations (clerical, service and mechanic/repairer jobs) clerical and services workers showed the sharpest increases in job insecurity while the slope for mechanics and repairers was much smaller (.015). Two possibilities to explain the difference between this group and others in the 'working class occupations' group is that as a result of the decline in the manufacturing industry, mechanics and repairers experienced higher job insecurity in years *prior to* this time series. In fact, in 1981 mechanics and repairers reported higher perceived job insecurity than clerical or service workers. Another possible explanation is that mechanics and repairers are more likely to have union membership, a characteristic which reduces their level of concern about job loss.

Among three occupations identified as 'professional', administrators/managers, teachers and professionals, non-teacher, workers who are administrators or managers experienced a much stronger increase (slope = .029) in perceived insecurity within this time period. In comparison, the slope (increase in perceived insecurity for each year in the time series) for predicted job insecurity was .007 for teachers and .006 for non-teacher professionals.

Other Group Differences in Perceived Insecurity

Comparison of predicted levels of job insecurity between other occupational and demographic groups reveals more variation of effect between measures. For example, an examination of predicted job insecurity levels by the sector in which the earner is employed, finds that while government employees reported higher levels of job insecurity

at the beginning of the time series, possibly due to difficulty in replacing public positions, in later years, those employed in the private sector and who are self-employed have caught up and have equivalent levels of insecurity (see p. 134). One limitation of this analysis is the broad base of jobs which compose the private sector. While public sector jobs are predominated by full-time, office based employment, jobs in the private sector are more varied. These may include full-time, well compensated professional positions, as well as a wide variety of poorly compensated, part-time positions. The analyses presented in Chapter 8 partially compensate for the limitations of this variable by controlling for occupation, part-time/full-time status and income.

Predicted levels of perceived job insecurity among part-time and full-time workers reveals one of the few places where differences appear to be widening between groups. Although the difference in slope is quite small, insecurity among the full-time employed grew at a more rapid rate (slope = .019) between 1981 and 2005 than the part-time employed (slope = .015). Additional examination to reveal the source of this unexpected finding, shows that the full-time employed have substantially higher predicted levels of difficulty replacing their current job while, part-time employees have higher predicted levels of likelihood of job loss. These results are interesting in the context of increasing polarization between employees at either end of the work time distribution. For example, descriptive analyses of average work hours per week and average weeks per year, that are presented in Chapter 7, show that variation in number of hours and weeks worked increased between 1981 and 2005. In 1981, the modal category for hours worked per week is 41-49 hours. In 2005, the modal category is 50-59 hours. Similarly, when comparing weeks worked between 1981 and 2005 (see Figure 7.X),

respondents in 2005 were more likely to fall into the extreme categories of '0-9 weeks' and '52 weeks', while respondents in 1981 were more spread across the five weeks-worked categories. For this reason, differences in perceived insecurity between part-time and full-time workers are likely to affect more earners going forward as their work conditions become more differentiated.

Unionization status is another area where group differences lessened over time. While both unionized and nonunionized workers experienced a sharp increase in perceived insecurity, with nonunionized workers reporting higher levels of insecurity at each time point, the slopes for these two groups indicate that outcomes for the two groups are becoming more similar. However, notably, by 2005 a predicted difference of .55 still existed between these groups – one of the largest differences among the characteristics examined here.

As another indicator of the salience of occupational differences in predicting perceived job insecurity, the respondent's place in their occupational hierarchy had a consistent effect on their reported insecurity throughout this period. Respondents with an immediate supervisor at their workplace were more insecure than those without a co-located supervisor, while respondents with subordinates whom they supervised at their work location reported lower levels of insecurity relative to respondents without subordinates. While all four groups experienced an increase in insecurity during these years, their slopes were similar (.01 to .013) indicating that the differences between them were static over time. This suggests that position in an occupational hierarchy has been most consistent predictive of perceived job insecurity among the respondents in this sample.

Finally, predicted insecurity among income groups in the sample supported the overall pattern of growing similarity between groups in the context of overall increasing insecurity. While respondents in all income categories reported increasing levels of insecurity between 1981 and 2005, the magnitude of the slopes for each category had an inverse relationship with the associated level of income. That is, the lowest income category had the most gradual increase in insecurity (slope = .01) while those in the highest income category experienced the most rapid growth in insecurity (slope = .023). Though notable differences in job insecurity continue through 2005, the observed trend is toward a reduction of those differences.

The results discussed here support the conclusion that occupational characteristics have a predictive relationship with respondents' perceived insecurity, though, in most cases that relationship is weakening over time. An individual's perceived employment insecurity has the potential to resonate in many aspects of their work and personal behavior. The GSS provides some additional visibility into these potential effects by collecting information about related areas of respondents' well-being. For example, the survey asks respondents about their degree of job satisfaction. Interestingly, respondents who reported that they were satisfied with their job, had higher levels of job insecurity at the beginning of the time series. However, by 2000, they had changed places with the group of individuals who were not satisfied with their job – a group that had faster growing predicted insecurity levels. One possible interpretation of this pattern is that the group reporting that they were satisfied with their job perceived greater difficulty finding a replacement position than those who were dissatisfied with their job, because the later group viewed their current job as undesirable. While it's not possible to determine the

cause of this relationship based on the data available, it is useful to illustrate how job insecurity is connected to other aspects of respondents' perceived well-being.

A similar association was observed when comparing perceived insecurity levels according to respondents' level of satisfaction with their overall financial situation. Level of perceived job insecurity and financial satisfaction were correlated at the level of $-.14$ indicating a moderate, negative relationship. As expected, respondents reporting high levels of satisfaction had lower levels of perceived job insecurity than the moderate group who indicated that they were 'more or less satisfied'. In line with previously described results, the 'Pretty well satisfied' group had a larger slope (.018) indicating that their level of perceived insecurity increased more quickly than the group with moderate satisfaction. Interesting, the group of respondents who reported that they are 'Not satisfied at all' with their financial situation began the time series with the lowest level of job insecurity. However, the large positive slope for their values greatly increased their predicted levels of job insecurity by the end of the time series.

As an indicator of the salience of job insecurity to respondents' perceived well-being, the level of reported insecurity is compared across three groups of individuals; those reporting that they are very happy, somewhat happy and not too happy. There was a negative correlation between perceived job insecurity and respondent happiness ($r = -.16$). Respondents who reported that they are very happy had lower levels of job satisfaction throughout the time series, while respondents who said they were somewhat happy or not too happy each had higher levels of insecurity (see Figure 6.19)

Although the results of correlations between these attitudinal variables do not conclusively demonstrate a connection between perceived job insecurity and

respondents' overall well-being or propensity to act in correspondence with that perceived insecurity, it does provide some evidence about the salience of job insecurity to other elements of respondents' perceived well-being. Thus, it is reasonable to assume that individuals' perception of their employment stability factors into a variety of financial decisions and motivations. This question is central to many economists' theories of risk response as summarized in Chapter 3. The topic of interest in this analysis is whether response to those perceptions is more accurately characterized as risk-averse and oriented to minimizing future negative outcomes or as risk accepting and oriented to maximizing current conditions. This question is explored through the next two sections analyzing the Consumer Expenditure Survey.

The Performance of Short and Long-Term Spending as Concepts in Analyzing Spending Motivation

The primary goal of this project is to determine whether households respond to risk by minimizing risk and conserving resources as economists predict or, as described by social theorists, by developing a passive acceptance of risk and in the process abandoning conservative financial behavior in favor of the influence of social and cultural pressures emphasizing short-term priorities. To study this question, I focus on dependent variables that measure the outcomes in question – allocation of financial resources to long-term, risk minimizing goods and services, or to short-term, immediate-benefit goods and services. The measures are seven individual expenditure categories, food at home, food eaten away from home, utilities, education, entertainment, personal care and household equipment. Food consumed at home, education and utilities were

selected as goods and services that are predominately long-term oriented, while food consumed away from home, entertainment and personal care were selected as goods that are predominantly short-term oriented. Further discussion of this selection is found on pages 96-100. To measure households' general predisposition toward short-term and long-term consumption, I create two aggregate categories that encompass spending in categories with a clearly identifiable short or long term nature.

Subjectivity in the assignment of expenditure categories to 'short-term' and 'long-term' designations suggests the need for additional examination of whether the categories selected appear to have operated as intended in the descriptive and multivariate analyses. This is especially important as interpretation of the results of multivariate models is reliant, in part, on whether the short-term and long-term conceptual distinction is a valid representation of reality. To that end, I now summarize selected results from chapters 7 and 8 that speak to the performance of this conceptual approach.

What Descriptive Results Reveal about Short-term/Long-term Categorization

Chapter 7 summarizes univariate results for each expenditure category. Review of mean levels of expenditure and the number of households reporting no spending in each category suggests that there are three broad types of consumption represented by these data. The first are categories that have a low rate of no spending (broad-based spending) and that represent a high proportion of total spending – these include shelter, transportation, utilities and food. A second category includes categories with a low rate of no spending but lower levels of allocation such as apparel, entertainment, fuel and household equipment. These categories are common expenditures which most

households participate in, but whose volume is more influenced by households 'wants' than 'needs'. Finally, there are expenditures with a relatively high rate of no spending that represent relatively small portions of households' allocations – these include other vehicles, tobacco products, education and public transportation. These categories tend to include expenditures that are associated with a particular subset of households, such as those with school-age members.

Another common feature of expenditures within each of these categories is their degree of variation. Expenditures with a greater 'need' component such as food, shelter and transportation generally had smaller standard deviations relative to their means indicating that there is less dispersion among the proportion of expenditure allocated to these categories. The uniformity across households in the amount allocated to such categories suggests the presence of both physical and social needs for those items. By contrast categories such as apparel, household operations and equipment and cash contributions tend to have standard deviations in excess of their means suggesting greater volition in the decision to allocate resources to that category of goods.

Bivariate results presented in Appendix B summarize the correlations between each of the expenditure categories. Among those selected for analysis here, there was some support for assigning expenditures to short-term and long-term groups, although that support was inconsistent. For example, Pearson coefficients among each of the short-term expenditures categories were positive, though small, ranging from .03 to .18. Each of these categories was strongly correlated with the short-term aggregate category; however, this correlation is affected by the fact that each of these categories contribute to the values of the short-term variable. Additionally, each of the short-term expenditure

categories was positively correlated with ‘Total Expenditure’, which captures the total amount of annual expenditure (level) for the household. This persistent finding is likely due to an extension of an accepted principle in economics and psychology (Maslow, 1943) stating that individuals will allocate scarce resources to needed before wanted items. As a result, the degree to which households allocate to short-term oriented items such as apparel and entertainment is affected, in part by their total available resources. Supporting this finding are the positive, significant coefficients for income in the short-term model and negative, significant coefficients for income in the long-term model. For example, in the complete model of short-term spending, a \$1,000 increase in annual income resulted in a 2% increase in short-term spending, controlling for other occupational and demographic factors. The notability of the positive correlation between total expenditure and income, on one hand, and short-term expenditure on the other, lies in the support they provide for the categorization of that category as short-term (i.e. immediate-benefit).

Among the long-term oriented expenditures, food at home, utilities and the long-term aggregate category were all positively correlated. Surprisingly however, education – a category initially interpreted to be long-term in nature – had a negative correlation with food at home and utilities suggesting that other factors may be driving the decision to allocate resources to education.

What Multivariate Results Reveal about Short-term/Long-term Categorization

Coefficients for time in each of the multivariate models presented in Chapter 8 measure the direction and magnitude of change in the dependent variable over the time

series represented, 1981-2005. In the complete model predicting allocation to short-term spending, the coefficient for time was negative and significant, indicating that, controlling for occupational and demographic factors, the amount of expenditure allocated to short-term expenditures decreased over this 24 year period. The predicted, baseline level of short-term spending in 1981 was 26.6% while by 2005 it had fallen to 21.2%. Similarly, coefficients for time in the full models for entertainment, food away from home and personal care were also negative. Household equipment was the one exception to this pattern. By contrast, coefficients measuring the effect of time on predicted levels of long-term spending, food at home and utilities were each positive. In 1981, the predicted level of long-term spending for the reference group was 40.9% while in 2005 it was 47.5%. Spending on education was an exception to this trend with a negative coefficient for time.

These overall trends in long-term and short-term spending are inconsistent with the general expectation, suggested in the literature and by data on savings rates, that households are allocating a growing proportion of their income to want-based purchases. However, increasing short-term spending as a sample-wide characteristic is not the best measure of the hypotheses outlined in this dissertation. Those hypotheses assume that increases in short-term spending are differentiated according to the degree of insecurity experienced by each household. Increasing short-term spending is predicted to be most evident in highly insecure households for which there is an increased susceptibility to social and cultural pressures to adopt a short-term mindset. It was hypothesized that these societal pressures would increase allocation to short-term goods and services across households broadly however; the general time trend indicates that this is not the case.

Degree of Consistency in the Effect of Occupational Measures

Results from the multivariate models provide insight into the effect of the occupational measures on each of the short and long-term variables. In models of short-term spending, virtually all coefficients for the five occupation types that were compared against the reference group, managers and professionals, indicate that households of earners in comparison (less secure) occupations spend more on short-term goods and services than households of more secure earners. The positive effect of being in a less secure occupation, on short-term spending is confirmed by occupation coefficients for entertainment, personal care and food away from home. Conversely, coefficients for each of the five comparison occupation groups were generally negative for the long-term spending aggregate variable, as well as for food at home, household equipment and in many cases, utilities. This provides strong support both for commonality in how households allocate to categories within the long-term and short-term ‘umbrellas’, and also for the value of occupation in predicting households’ propensity to allocate to different expenditure groups.

While the occupation variables in these models indicate that households relying on less secure occupations are more likely to allocate expenditures to short term than long-term products, coefficients in each model for the interaction between occupation and time show consistently that the effect of occupation declined between 1981 and 2005.

Work time, particularly the number of weeks per year the primary earner worked, had a significant effect on all of the expenditure categories. In the case of short-term oriented categories, the number of weeks worked had a negative effect on the percent of

expenditure allocated to entertainment, personal care and the aggregate short-term category. Among the long-term expenditure categories, the number of weeks worked increased allocation to food at home, utilities, household equipment and the long-term aggregate category. Similar consistency is present in the affect of the unemployment rate on spending. Higher occupation-specific unemployment rates had a consistent negative effect on allocation to both the aggregate short-term variable and the individual categories such as entertainment and food away from home. Conversely, for each of the long-term spending categories the unemployment rate had a positive, significant effect on long-term spending.

Overall, coefficients for each of the occupational measures evaluated in these models, with the exception of employment sector, demonstrate consistency in the effect of occupation type, time worked and the unemployment rate on expenditure variables under the short-term and long-term groupings. The direction of these coefficients indicates that households in more secure employment scenarios spend less on short-term categories and more on long-term oriented categories. In the next section, comparison of predicated values for each of the expenditure categories provides quantified information on the combined effect of occupational and demographic measures and how that effect differs among expenditure categories.

Comparison of Predicted Values across Short and Long Term Categories

To determine whether a differential effect on short and long-term spending exists according to households' level of employment insecurity, Chapter 8 presented predicted values for low and high security households for each dependent variable (see respective

sections in Chapter 8 for more information). These predicted values (see Table 9.1) reinforce the overall trends related to change in short and long term spending but also quantify differences between low and high insecurity households that are, at times, either consistent or inconsistent with expected outcomes. For example, the predicted level of short-term (aggregate category) spending for a high insecurity household in 1981 was 28.1%. That level fell to 24.6% by 2005. A household with identical demographic characteristics, working in a lower insecurity environment (i.e. more stable occupation at a lower unemployment rate) spent only 24.8% on short-term goods in 1981 and 19.8% in 2005. In contrast, as Table 9.1 shows, long-term spending levels were higher among low insecurity households in 1981 and 2005, though the level of long-term spending also increased among more insecure households.

Predicted values for most of the individual expenditure groups analyzed did not follow this pattern. High insecurity households had higher levels of food away spending in 1981, but by 2005 levels for low security households had surpassed them. A similar pattern existed for entertainment spending. For personal care spending, a category that was selected for its mix of necessity and want-based value, both high and low insecurity households had a reduction in allocation. Predictated values for food at home and utilities were similar to the long-term aggregate group. Both high and low insecurity households allocated more to these categories in 2005 than 1981.

Table 9.1 Predicted values for high and low insecurity households, 1981 and 2005

Dependent variable	High insecurity		Low insecurity	
	1981	2005	1981	2005
Short-term	28.1	24.6	24.8	19.8
Food away	38.8	31.6	35.5	37.6
Entertainment	7.3	5.5	6.2	7.3

Personal care	2.2	.67	1.0	.60
Household equipment	4.8	6.2	5.6	7.2
Long-term	27.3	32.7	41.8	47.2
Food at home	65.2	73.6	67.5	72.7
Utilities	2.8	4.3	3.2	4.1
Education	3.4	.98	2.7	.04

Short-term and long-term conceptual categories - conclusions

The descriptive and multivariate analyses described here present an inconsistent picture of the cohesiveness of the short and long term conceptual categories and, more concretely, the aggregate variables that measure those concepts. In general, there was notable similarity in the degree of variation present among similar expenditures, as well as in how expenditure levels among short and long term categories changed during the time series. Positive Pearson coefficients between similarly categorized expenditures and negative correlations between short and long-term expenditures provides further support for the categorization however, in most cases coefficients were modest and education was not well correlated with the broader group of long-term oriented expenditures. There was good uniformity in the direction of the effect of occupational measures, particularly occupation category and weeks worked on short and long term expenditures, though the introduction of interaction terms rendered some coefficients nonsignificant, and the negative value of those interactions indicates that across occupation differences is likely shrinking over time. Finally, predicted values for each of the dependent variables reveal discrepancies between the aggregate measures and the individual expenditure categories. Values for the aggregate categories are uniformly increasing for long-term expenditures and decreasing for short-term expenditures, regardless of the degree of employment security in the household. By contrast, in many cases over-time changes in individual

expenditure categories differed for high insecurity and low insecurity households, but in contrast to expected patterns.

These inconsistencies likely have multiple causes aside from the general measurement error that is present when determining the relatedness of a set of measures. Beyond the issues already discussed, the association between categories labeled as short-term or long-term is affected by a variety of external economic factors. These inconsistencies are one indication of a weakness introduced by macroeconomic changes that effect respondents' values on the dependent variables. Specifically, changes in the prices of goods, in both directions effects the percentage of total expenditure allocated to each category, external to allocation decisions the household is making. For instance, falling prices on groceries and manufactured goods resulting from technological changes in food production and globalization of manufacturing, respectively has reduced the proportion of families' budgets allocated to those categories even when the household is consuming more of those items. On the other hand, sharp increases in the cost of real estate, energy and health care during the time period analyzed may result in an increase in the percentage of resources allocated to those goods, regardless of household members' orientation toward short or long term priorities.

Explanatory Effects on Spending Behavior and Weakening of Effects over Time

The two central questions of this project ask whether allocation to short and long term expenditures is effected by the occupational characteristics of the household and whether that effect has increased over time. Based on conclusions drawn in the literature, it is hypothesized that households with more secure employment conditions will allocate

more of their resources to long-term expenditure than less secure households. In addition, based on increases in the magnitude and sources of insecurity households experience, it is hypothesized that the strength of any occupational differences will have increased during the 24 year time series analyzed with the CEX data. This section summarizes results from Chapter 8 that respond to these two questions, while providing a partial response to whether the literature and the hypotheses in this work are supported by available empirical data.

Time Effect

The linear effect of time was included in the six models for each dependent variable. The coefficient for time in both the long-term aggregate category and food at home expenditure category indicate an increase in allocation to long-term expenditures between 1981 and 2005. The magnitude of this effect in both cases was small relative to the base percent allocated. The time effect for utilities and household equipment, a variable that, while not selected for its long-term attributes, has acted similarly to other long term categories in most of this analysis, were significant, though small in magnitude. The effect of time on education spending differed from that of other categories, with a .12% decrease in education allocation for each year in the time series. There was greater correspondence between the short-term categories. The coefficients for time and food at home, personal care and short-term aggregate category all showed a significant decline in percent of expenditure allocated to short-term goods over time, only entertainment spending was resilient to change over time with a nonsignificant coefficient for time in all models.

These results contradict expected trends in short and long-term spending and pose limitations to the hypothesis that increasing levels of expenditure are attributable to greater allocation to short-term, discretionary goods and services. However, these general trends do not reflect whether employment conditions are generating differences between groups in their propensity to allocate to long or short term categories. To respond to that question it's necessary to review coefficients for the occupational measures in the regression models.

Occupation Effects

Of the five occupational categories (service, production/repair, operator, farm and technical/sales) compared in the model to the reference group (managers and professionals), most had significantly different expenditure levels. Most occupations allocated more to food at home and utilities than the more secure reference group. The five comparison occupations generally spent less than managers and professionals on household equipment, and on goods in the long-term expenditure category. In the case of long-term expenditures, the interaction between occupation and time was positive indicating a growing difference between less secure and more secure occupations over time. All four of the short-term categories had positive coefficients for two or more occupation groups when compared to the reference category indicating that households with a primary earner in a less stable occupation spent more on short-term goods than those of managers or professionals. However, significant negative interactions between time and occupation for the four short term expenditure categories indicate that the effect of occupation differences is weakening over time.

Employment Sector Effects

Results for four of the five long-term expenditure models found no significant effect for employment sector. Coefficients for the presence of a public sector job or for self-employment, when contrasted with private sector employees, showed no difference in allocation to long-term goods and no change over time in that lack of effect. The one exception to this weak results from models of education expenditure which found a significant positive effect for presence of a government sector earner in the household. Thus, households of government employees are predicted to spend more on education than similar households of private sector employees.

Similar to the long-term expenditures, there is no observed effect of employment sector on food away from home or the short-term aggregate category. Presence of a government sector earner had a positive effect on entertainment spending and a negative effect on personal care spending however, in both cases, one interaction was added to the models those effects disappeared. In all cases, there was no measurable change in the effect of employment sector on short-term goods and services. From these analyses, employment sector appears to be a weak predictor of expenditure patterns.

Work Time Effects

The average number of weeks worked per year by the primary earner was a significant predictor of expenditures in both short and long term categories. Greater numbers of weeks worked increased the percent of expenditure allocated to food at home, household equipment, utilities and the long-term aggregate category however, in all cases

the effect of weeks worked declined over the course of the time series. The number of weeks worked had a negative effect on the percent of expenditure allocated to personal care, entertainment and the short-term expenditure category, although it had a positive effect on food away from home. In general, coefficients for interactions indicated that there was no change in these effects over time, the only exception to this was education for which the effect, over time strengthened. While weeks worked proved to be a strong predictor of expenditures, coefficients for average hours worked per week were only significant for education, personal care and the long-term expenditures category. In each case the size of these effects was small and appears to be shrinking over time.

Unemployment Effects

The effect of the unemployment rate on long-term expenditures varies among the categories examined. Positive coefficients indicate that higher occupation-specific unemployment rates are associated with increased allocation to food at home and the broader category of long-term expenditure. However, there was no effect on education or utility spending, and a negative effect on allocation to household equipment. The effect of unemployment rate on the four short-term categories was consistently negative with lower rates of allocation to short-term goods as unemployment rates rise. Similarly, results for the aggregate short-term spending category indicates that there was an overall negative effect of unemployment on short-term oriented spending, while the non-significant coefficient for the interaction between unemployment and time suggests that either there was no observable difference over time or that differences between long-term oriented groups masked the changing effect of unemployment on long-term spending.

Conclusionary thoughts on the effects of explanatory variables over time

The described differences between the occupational groups lend support to the hypothesis that more secure employment conditions increases household allocation to long term goods and decreases allocation to short-term goods. However, results are far from conclusive. For instance, less secure occupation spent more on utilities and food at home, but less on the long-term goods category and the four short-term categories. Greater weeks worked is associated with higher levels of allocation to long-term goods and lower allocation to short-term goods. Notably, results were more consistent and in the expected direction for short-term than long-term categories. This analysis does not determine the reason for that difference but one possibility is that short-term expenditures generally have a larger discretionary component and households thus have more latitude to adjust their consumption according to present conditions. By contrast there is less discretion within long-term categories like food at home and utilities, both of which tend to experience more volatile swings in cost – another factor involuntarily influences the amount households allocate.

Perhaps the most notable finding drawn from review of the regression results is the uniformly negative value of time interactions in the models. When significant, a substantial majority of interaction coefficients were negative indicating declines in the effect of group differences over time. Entertainment was the only category that experienced a strengthening of the effect of occupational characteristics. This weakening of this effect over time contradicts the hypothesis that group differences are increasing over time. However, it's informative to consider these results in the context of those

from the GSS insecurity analysis presented earlier in this chapter. As explained previously, while reported levels of insecurity have risen, differences in perceived employment insecurity between occupation groups declined during the two and half decades covered in both analyses. One conclusion to draw is that workers in all occupations have higher perceived insecurity in recent years than they did in the early 1980s. Growing similarity in perceived employment insecurity may explain the presence of negative interactions between occupational characteristics and time – while occupational differences in spending do exist, diminishing differences in insecurity are reducing the effect of occupation over time.

Reconciling Theories of the Connection between Insecurity and Consumer Decision-making

The connections between the experience of economic insecurity and consumer decision-making has been theorized and studied by Sociologists and Economists. As discussed in Chapter 3, these two academic traditions have arrived at differing understandings¹¹ of how individuals and households might respond when exposed to economic and employment stress. The analyses presented in this project help reconcile these two perspectives by identifying *conditions* under which consumers are more or less likely to act in a rational or risk-averse manner.

In brief, mainstream Economics has long posited that individuals are rational actors who make life decisions, including decisions about how to allocate their financial resources, which are in their best interest. Moreover, this perspective argues that rational

¹¹ The approaches are not defined solely by difference. Although the rational model of consumer behavior is the central Economics paradigm for understanding the effect of insecurity and risk on behavior, Behavioral Economists assert an understanding of this relationship that is more closely aligned with that of Sociologists.

decision making takes place largely independent of cultural influences and expectations which might otherwise encourage a less utilitarian approach to such decisions. The Economics literature does acknowledge the effect of a variety of exogenous factors that place constraints on the financial decision making of individuals, but these factors reside in the economic variables that shape individual lives. Examples of such constraints include available income (a factor notable to this analysis due to the wage stagnation that occurred during the time series analyzed here), availability of credit and regional and over-time price variation – particularly among goods and services where technological ‘efficiencies’ have not contributed to a lowering of production costs (e.g. housing, health care, food). To be sure, these constraints are important in understanding some of the results in this project.

Challenging this central assumption of Economics, recent work by social theorists and researchers suggests that individuals’ decision-making on financial and myriad other subjects is influenced by their social and cultural environment, not merely the reasoned consideration of economic variables. In recent decades, the social environment has encouraged a consumer model focused more on short-term priorities, such as maintaining social status, increasing personal enjoyment and providing a sense of control over one’s situation, and less on ensuring that the individual and household have their longer term economic needs protected. This short-term orientation coincides with structural changes in the workforce that emphasize reduced job security and provide less protection from work-loss, whether through health or retirement benefits.

These two competing theories are tested by the analyses in this dissertation project. The results from the GSS and CEX analyses provide some support for the

rational actor position, particularly in evidence of broad economic constraints that influence the spending behavior of individuals in this sample in some ‘baskets’ of goods and services. However, the results also point to spending areas where consumers are less risk-averse in their spending, and where the presence of a low security occupation actually *increases* the amount of spending on discretionary items.

Results from the CEX analyses are most consistent with the rational actor model for the long-term oriented expenditure categories. As one example, spending on food at home, on utilities and on the broader, long-term aggregate measure tend to increase with the unemployment rate. By contrast, results for the short-term oriented categories are more consistent with the hypotheses laid out in Chapter 5. Households with fewer work hours and less secure occupations spent more on personal care and entertainment than those with earners in more secure employment conditions. There are likely several factors influencing this pattern.

One explanation for the greater coherence between the hypotheses and results for the short-term spending models references the economic constraints acknowledged by Economists. Most notable is the stagnation of wages relative to growth in product costs – especially for categories of goods that are designated in this analysis as long-term. Much attention has been paid to the plateauing of the average inflation-adjusted wage since the early 1970s. During the years since that time, the cost of housing, food, health care, education and natural resources (utilities) have grown rapidly. This is less true of short-term oriented goods, many of which have seen relative price declines due to off-shoring and increased efficiency in their production. These inverse trends mean that, overtime, a greater proportion of household income must be dedicated to long-term oriented goods, if

only due to their increased costs. This is particularly true for lower income households who are more financially pressed by these trends. The increasing proportion of financial resources absorbed by long-term goods means that lower income households have less flexibility in allocating money to short term goods, whatever their inclinations.

Another particularly salient factor is that spending on long-term goods is more inflexible than spending on short-term goods. Almost all individuals must spend on housing, utilities, food and health care. While the ceiling on such spending is quite flexible, the 'basement' is more fixed. Except in some very unusual situations, these long-term categories compose a substantial portion of spending. Spending on short-term oriented goods is generally more discretionary. While some spending on entertainment, personal care, food eaten out and other such categories is necessitated by membership in society, the degree of such spending is more susceptible to social and cultural influences. With the exception of housing it is, in fact, these categories that have composed most of the spending growth that is a noted feature of American society over the last few decades.

These social and cultural forces, which include a focus on consumer spending to define personal identities and group affiliations as well as to communicate status, are exactly the influences which social observers (e.g. Bauman, Schor and Rasanen), identified as influences on spending choices and other decisions in contemporary U.S. society. And it is these forces which I hypothesize form the motivation for individuals to spend in a short-term oriented manner. As laid out in Chapter 3, I assert that while it is the proliferation of risk that has limited individuals' ability to reliably predict and protect against future negative outcomes, it is cultural and social expectations that *encourage* individuals and households to spend in a short-term manner. Put differently, in the

absence of a societal emphasis on the short term, individuals *might* respond to their inability to predict future outcomes in any number of ways. It is the social and cultural context which directs individuals toward a short-term orientation in their spending. In light of the structural constraints on households' long term expenditures, the influence of this context is most clearly observed in the results for the models of short-term expenditures. It is in these categories where we see evidence of the effect of higher employment insecurity on spending (see Table 9.1). At both ends of the time series, high insecurity households allocated a more of their spending to short-term goods than low insecurity households.

This analysis provides insight into the explanatory strength as well as the limitations of both schools of thought on individual's behavior under insecure conditions. Individuals and households are constrained in their spending by structural factors, such as their access to available income and the costs of goods in the market. However, their remaining spending decisions – those that are often directed toward short-term oriented goods – are not controlled by rational factors that suggest limiting such spending when the household experiences insecurity. As observed in this analysis, such households often turn to increased spending on short-term goods as a way to communicate their place in society.

Limitations and Recommendations for Future Research

A number of notable limitations arose in the course of this study. In general, these limitations fell into two categories: measurement limitations and limitations related

to larger economic changes over time. Following is a discussion of these limitations as well as guidance about how these limitations effect interpretation of findings.

Measurement Limitations

The use of the Consumer Expenditure Survey for the central analyses in this dissertation provided the best available data on household spending behavior. However, there are several known limitations to the quality of this data. As noted in Chapter 5, the survey is administered to each household over five quarters resulting in greater sample attrition rates than in single administration surveys. I attempted to address this issue, in part, by annualizing expenditures for households with less than five quarters of information however, as previously explained, this likely limited variation in expenditure patterns. Also, it is well established that reporting of objective information such as income and expenditures, even with the help of supportive documents such as receipts and tax returns, is subject to reporting error. This issue is inherent to all respondent reported financial information. A separate issue related to the measurement of income in the survey is the Bureau of Labor Statistics decision to impute personal income values beginning in 2005. Chapter 6 noted an unexpectedly sharp rise in after-tax income between 2000 and 2005 which was likely caused by the imputation of this variable which is meant to compensate for underreporting of income. Although income serves as a control measure in this analysis, the increase in income at the end of the time series associated with this imputation likely increased the value of the income efficient in the multivariate models.

Measurement error also exists in the use of CEX's available occupational variables in measuring households' degree of economic insecurity. While each of the occupation measures, occupation type, sector and work time do an adequate job of capturing characteristics that are associated with insecure employment, in each case, variable values are too broad to identify with specificity, households experiencing insecurity in their employment conditions. For instance, each of the six occupational categories analyzed in chapters 7 and 8 cover a wide range of occupations that likely have varying degrees of insecurity associated with them. Similar issues exist with the employment sector variable. As noted earlier in this chapter, private sector jobs, in particular, are quite varied in their characteristics and may include jobs with both high and low insecurity conditions. While its reasonable to assume that the overall security of these positions is less than those in the public sector, important variation is lost in the utilization of a three value sector variable. Finally, the work time variables are compromised in that they do not distinguish between voluntary and involuntary work time arrangements. Some earner's may elect to have reduced work time schedules, although the occurrence of electing reduced work schedules is likely lower among the population of primary earners, which limits the usefulness of these variables for measuring employment insecurity.

In addition to limitations created by imprecision in occupational measures, assessment of households' employment insecurity is weakened by the lack of other employment information in the models. For example, the regression models in Chapter 8 rely on the demographic and occupational characteristics of the households' primary earner. Model specification would be improved if the models included occupational

information about other earners in the household as well as the proportion of total income generated by each earner so that the influence of those characteristics could be weighted appropriately.

Limitations to Causal Inference Resulting from Unmeasured Respondent Characteristics

One contribution of this project is the identification of a connection between the cultural emphasis on short-term priorities that is common in post-industrial economies; and a pattern of consumption behavior that coexists with it. I argue that a connection exists between these two, apparently disparate, phenomena via heightened levels of economic insecurity. This heightened insecurity renders individuals susceptible to internalizing and acting upon the short-term cultural influences to which they are regularly exposed - an influence that is manifested in, among other outcomes, increased allocation of financial resources to short-term oriented spending. While earlier chapters of this dissertation lay out a solid basis for this argument, it is important to note that the connection between individuals' degree of economic insecurity and their spending patterns is likely mediated by multiple factors, some of which are exogenous to the cultural influences of post-industrialism. Each of the multivariate models discussed in Chapter 8 included numerous demographic and financial characteristics of the household and its primary earner (see p. 103 for a list of control variables). The control variables reduce the likelihood that significant findings from these models are the result of factors external to households' employment insecurity. However, this set of control variables is still limited and does not account for all plausible factors that could link the studied phenomena. Thus it is possible that observed differences in spending behavior, noted in

both the descriptive and inferential analyses, could be the result of one or more unmeasured characteristics that are correlated with individuals' degree of job insecurity as well as with their spending behavior.

For example, these analyses did not control for variation in the psychological characteristics of individuals in the sample. As a result, members of the sample may have unknown characteristics that cause them to pursue an employment situation with a given security 'profile' and also to spend in a manner that is either short-term or long-term oriented. An individual who is generally risk-averse and conservative in their decision-making, may elect to pursue a greater level of education and to take a position that is less susceptible to periods of unemployment. That individual may also devote a larger proportion of their expenditures to those goods and services that provide greater long-term benefit to their household. Conversely, an individual with a short-term, 'in the moment' orientation may not pursue a higher level of education and may not prioritize job stability when seeking employment. That same individual could be expected to spend in a less cautionary way, based on their needs or desires in the moment.

Due to a lack of available data on some respondent characteristics, this type of complexity in the causal 'path' between employment insecurity and household spending behavior is not fully resolved by this project and it remains a limitation to this research. However, the longitudinal component of this analysis provides some protection against alternative causes of spending behavior. The main argument underlying this project is that the strength of the effect of job insecurity on spending increased during the 25 year period studied. Any change in the effect of insecurity on spending is likely impervious to the types of psychological characteristics that would create a spurious relationship

between these phenomena. So although the presence of unmeasured household and individual characteristics remains a limitation of the descriptive analyses discussed in prior chapters, it is not expected to undermine the measurement of changes in this relationship over time.

Limitations Resulting from Changes in Macro-Economic Conditions

Introduction of a repeated cross-sectional component to these analyses, while necessary to determine whether the effect of employment insecurity on spending behavior has changed over time, exposes the analysis to a variety of limitations related to changing economic conditions in the U.S. over the last few decades. Among the most significant of these with regard to this project are differential changes in the price of goods and services since the early 1980s. During this time the relative price of many manufactured goods such as clothing, electronics, vehicles and household goods as well as food, have fallen relative to income. This decline in prices is due primarily to globalized manufacturing in addition to technological changes that have reduced the costs of production. On the other hand, other categories of goods and services have seen notable increases in price including health care, post-secondary and education and utilities. These price changes are aside from increases in costs associated with consumers selecting goods of higher relative value as has been the trend in U.S. housing over the last several decades.

Differential changes in price over time complicate the interpretation of allocation to expenditure categories. That is, an increase in the amount of total expenditure allocated to a given expenditure category is not solely a reflection of a change in the

household's priority on that category of goods. It is also a function of changes in the price of goods in that category. For instance, a household in 1981 might spend \$300 on entertainment in a year whereas, in 2005, a demographically similar household might spend \$250. The \$50 reduction in expenditure may be due to a decreasing emphasis on entertainment in the household or it might be the result of falling prices for electronics and other entertainment goods. Conversely, increases in the cost of other goods and services particularly long-term, less fungible goods, reduces the amount of money available for non-essential purchases, thus lowering reported allocation to such categories.

In reflecting upon the importance of these limitations its useful to remember that the purpose of this analysis is not purely to track over-time changes in spending among categories but instead to determine how the effect of insecurity on spending differs over time. Since households of varying insecurity levels are exposed to the same price fluctuations, the effect of costs changes is partially mitigated.

Societal level changes in economic condition also have the potential to effect measures of insecurity in these analyses. Theories discussed in chapters 2 and 3 suggest that when households are exposed to multiple sources of insecurity, their ability to adapt rationally to that insecurity by planning for potential negative events is limited. This project measures the effect in a household's own employment insecurity on their spending behavior. However, each household is nested in a specific societal and cultural context that communicates messages, through both informal and formalized means, about the well-being of the economy at-large and the susceptibility of workers and families to economic difficulty. This larger context likely influences household members'

perception of their own economic insecurity. Evidence of this lies in the significant effect of the unemployment rate on the GSS analyses of perceived insecurity as well as the analysis of spending behavior using the CEX. The salience of the annual unemployment rate in predicting values on both the independent and dependent variables signals the importance of the larger, societal context on individuals' perceptions and behavior. To some extent, this macro-level influence is an expected component of theorized relationship between insecurity and consumer behavior however, when households evaluate their employment insecurity as a factor predominantly of the larger economic context, the effect of differences between groups are likely minimized

Recommendations for Future Research

The work presented in this dissertation represents an initial investigation into the subject of how the proliferation of financial risk experienced by households affects their consumption behavior. While a substantial body of literature within Economics has dealt with individuals' propensity for risk aversion, there has been little work on the question of whether thresholds exist in individuals' ability to cognitively manage risk, and the types of behavior that ensue when those abilities are taxed.

There are many avenues, rich with possibilities for future research that would strengthen understanding of the findings presented here. This project was originally envisioned as an analysis of the effect of multiple types of financial risk on households' consumer behavior. Due to time constraints, the analysis is limited to investigating employment insecurity but other areas such as risks related to insufficient health care and retirement protection are other areas that should be investigated. Ultimately, the theories

described in earlier chapters are best tested when households' susceptibility to multiple sources of risk can be measured.

Households' allocation decisions are a complex weighing of many options. One of those options, not explored in detail here, is savings. Household savings are one of the best indicators of members' long-term orientation, and any analysis of allocation decisions without evaluating savings behavior is incomplete. Any future research that incorporates savings behavior, or any set of measures that tracks the breadth of ways that income is allocated, faces challenges related to underreporting of data in these categories as well as households' use of credit.

Finally, a better understanding of the difficulties households experience in appropriately calculating and responding to risk requires more detailed information about how individuals process this information and react to larger social pressures on their consumption behavior. A well-designed interview project that inquires into individuals' understanding of employment risk, the basis for their perception of their employment as secure or insecure, and the sources of information from which they base their perceptions would provide invaluable information about the basic cognitive processes underlying this research.

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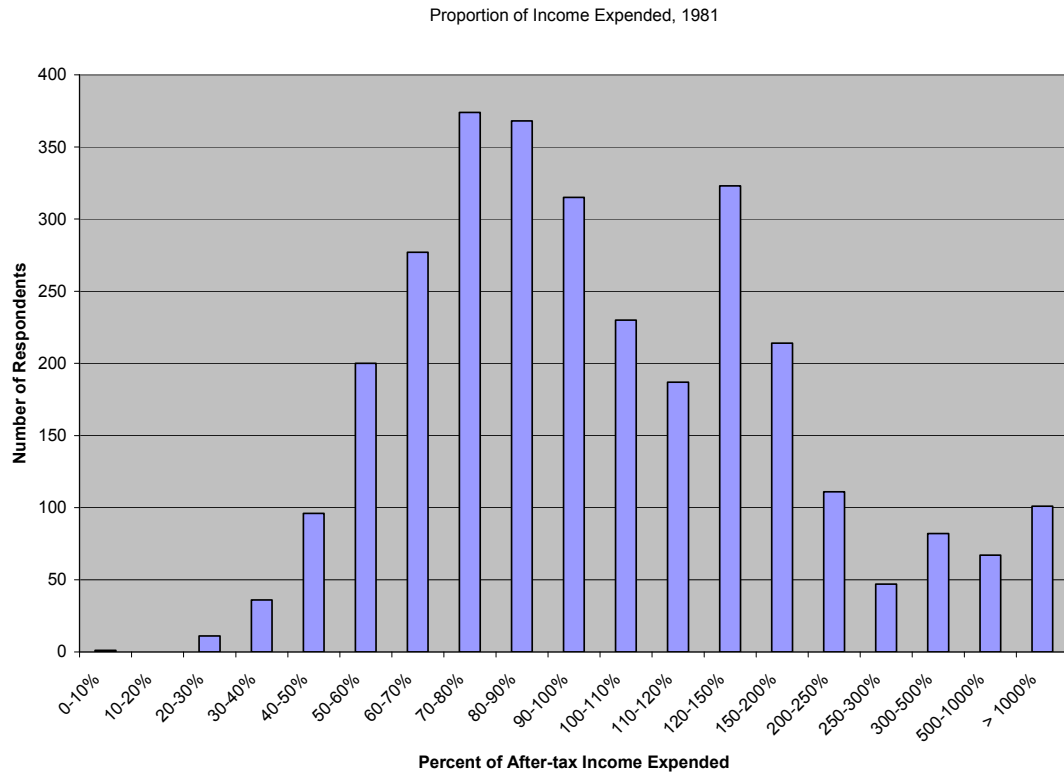
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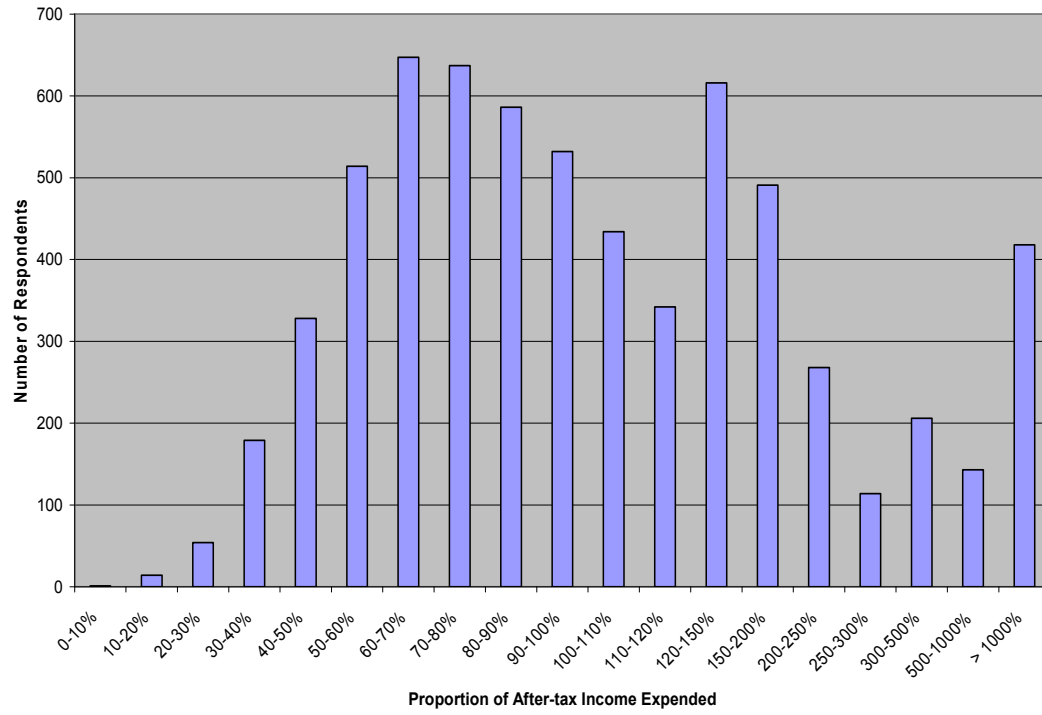
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APPENDICES

APPENDIX A: PROPORTION OF INCOME EXPENDED, 1981 AND 2000



Proportion of Income Expended, 2000



APPENDIX B: PEARSON COEFFICIENTS FOR CORRELATIONS BETWEEN EXPENDITURE VARIABLES

Note: Variables (with the following exceptions) are the proportion of total expenditure spent on that category of goods and services. Exceptions: Total expenditure is the annualized dollar amount spent by the household in all categories. Food at home and food away from home are proportions of total *food* spending.

	Total Expenditures	Short-term	Long-term	Food away from home	Food at home	Education	Entertainment	Household equipment	Personal care	Utilities
Total expen.	1.00	0.057	-0.107	0.25	-0.19	-0.34	0.10	0.09	-0.12	-0.30
		<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001
Short-term	0.057	1.00	-0.347	0.493	-0.422	0.151	0.571	0.458	0.091	-0.208
	<.0001		<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001
Long-term	-0.107	-0.347	1.00	-0.325	0.385	-0.065	-0.214	-0.136	-0.027	0.060
	<.0001	<.0001		<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001
Food away	0.25	0.493	-0.325	1.00	-0.97	0.01	0.18	0.09	0.03	-0.29
	<.0001	<.0001	<.0001		<.0001	0.28	<.0001	<.0001	0	<.0001
Food home	-0.19	-0.422	0.385	-0.97	1.00	-0.05	-0.18	-0.07	-0.03	0.29
	<.0001	<.0001	<.0001	<.0001		<.0001	<.0001	<.0001	<.0001	<.0001
Education	-0.34	0.151	-0.065	0.01	-0.05	1.00	0.05	-0.08	0.18	0.05
	<.0001	<.0001	<.0001	0.28	<.0001		<.0001	<.0001	<.0001	<.0001
Entertain.	0.10	0.571	-0.214	0.18	-0.18	0.05	1.00	0.05	0.02	-0.12
	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001		<.0001	0.01	<.0001
House equip.	0.09	0.458	-0.136	0.09	-0.07	-0.08	0.05	1.00	0.00	-0.11
	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001		0.8	<.0001
Personal care	-0.12	0.091	-0.027	0.03	-0.03	0.18	0.02	0.00	1.00	0.08
	<.0001	<.0001	<.0001	0	<.0001	<.0001	0.01	0.8		<.0001
Utilities	-0.30	-0.208	0.060	-0.29	0.29	0.05	-0.12	-0.11	0.08	1.00
	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	

APPENDIX C: PREDICTED VALUES FOR DEPENDENT VARIABLES BY OCCUPATIONAL AND DEMOGRAPHIC CHARACTERISTICS

	Total Expenditure	Short-term	Long-term	Food at home	Food away from home	Education	Entertainment	Household Equipment	Personal Care	Utilities
Manager	27,788.24 13,578.84	18.62 1.00	43.05 0.53	25.55 5.63	75.19 -6.35	0.12 -0.02	5.04 0.35	3.85 0.35	1.08 -0.10	8.38 -1.54
Tech_sales	33,258.31 -5,466.26	18.78 0.55	43.39 -0.72	27.39 -0.00*	73.36 -0.49*	0.10 0.02	5.15 -0.02*	3.97 -0.05*	1.02 0.11	7.88 0.13*
Service	33,099.28 -10,563.0	19.07 -1.29	43.04 1.40	28.02 -5.13	72.69 4.68	0.10 0.05	5.20 -0.49	3.99 -0.28	1.03 0.181	7.73 1.63
Farm	32,013.74 -11,549.0	18.92 -0.10*	43.21 -0.16*	27.46 -7.11	73.14 8.74	0.11 0.02	5.15 -0.03*	3.96 0.21*	1.05 0.06*	7.91 0.35*
Production-repair	32,259.89 -4,734.74	18.99 -0.80	43.26 -0.64*	27.62 -3.48	72.94 3.66	0.11 -0.02	5.16 -0.09*	3.97 -0.09*	1.06 -0.14	7.91 0.11*
Operator	33,237.19 -8,789.08	19.09 -1.10	43.25 -0.26*	28.18 -5.64	72.29 6.14	0.11 -0.009	5.19 -0.24	4.00 -0.25	1.05 -0.01*	7.76 0.99
Armed Services	31,853.89 2,814.83*	18.90 2.91	43.23 -2.77	27.38 0.94*	73.23 0.97*	0.11 -0.01*	5.14 1.01	3.94 1.79	1.051 0.003*	7.93 -1.29
Private Sector	36,287.26 -5,913.42	18.92 -0.01*	43.29 -0.14*	28.71 -1.71	72.13 1.42	0.107 0.010	5.27 -0.16	3.98 -0.03*	1.020 0.038	7.75 0.20
Government Sector	31,758.23 7,62.80*	18.92 -0.03*	43.17 0.06*	27.39 0.33*	73.25 -0.33*	0.114 0.001*	5.12 0.11*	3.93 0.14*	1.050 -0.010*	7.95 -0.28
Self-employed	30,782.62 13,891.42	18.90 0.14*	43.17 0.16*	27.13 3.48	73.44 -3.18	0.117 -0.031	5.12 0.22*	3.97 -0.18*	1.05 -0.07	7.90 0.00*
Female	34,019.80 -5,832.06	19.10 -0.48	42.79 1.12	28.44 -2.57	72.45 2.09	0.101 0.038	5.39 -0.65	3.95 0.02*	0.95 0.26	7.48 1.19
Urban Location (vs rural)	26,210.18 6218.38	18.09 0.90	40.92 2.51	23.90 3.80	77.30 -4.45	0.120 -0.005*	5.27 -0.13*	3.93 0.03*	0.94 0.11	9.28 -1.50

Northeast	31711.22	18.76	43.10	27.39	73.16	0.114	5.15	3.97	1.044	7.87
	914.87	0.88	0.59	0.03*	0.47*	0.002*	-0.04*	-0.08*	0.041	0.27
Midwest	32234.09	18.63	43.66	26.88	73.82	0.114	5.06	3.94	1.05	7.88
	-1563.47	1.22	-1.93	2.18	-2.46	0.003*	0.35	0.06*	-0.01*	0.17
South	32002.22	19.21	43.16	27.48	73.01	0.114	5.27	3.94	1.01	7.57
	-460.75*	-1.01	0.14*	-0.28*	0.78	0.002*	-0.44	0.06*	0.12	1.21
West	30806.21	19.02	42.65	27.73	73.26	0.116	5.10	3.98	1.08	8.43
	4372.91	-0.43	2.27	-1.31	-0.08*	-0.003*	0.20	-0.07*	-0.12	-2.10

Note: T-statistics are presented in the blue-ed boxes for correlations between continuous dependent and dichotomous independent variables.

APPENDIX D: BIVARIATE ASSOCIATIONS BETWEEN JOB CHARACTERISTIC MEASURES

	Private Sector	Government Sector	Self-Employed	Hours per Week	Weeks per Year
Manager	-0.18	.143	-.171	40.59 3.54	68.17 12.68
Technical/Sales	.115	-.017	-.162	42.48 -3.23	72.33 -1.56
Service	.006	.062	-.098	42.29 -5.45	73.26 -12.00
Farm	.019	-.005	-.028	41.66 0.24*	72.13 -16.84
Production/Repair	.115	-.074	-.081*	41.56 1.23	72.01 -0.74*
Operator	.178	-.116	-.128	41.62 0.22*	72.90 -5.98
Armed Services	-.155	.197	-.027	41.61 6.02	71.76 25.08
Hours per Week	42.12 -0.62	41.83 -0.95	41.38 3.51	.	.257
Weeks per Year	73.62 -2.26	71.53 2.32	71.83 1.41*	.257	.

Note: All t-statistics were significant at the .05 level except where marked by an asterisk.

1 Gray boxes are the intercept and parameter estimate from bivariate tobit equations.

2 Cramer's V is presented in the blue-ed boxes for correlations between two dichotomous variables.

3 Pearson correlation coefficients are presented in the white boxes.

APPENDIX E: BIVARIATE ASSOCIATIONS BETWEEN JOB AND DEMOGRAPHIC CHARACTERISTICS

	Age	Education Level	Household Size	Female	Black	Other race	White	Married	Rural Location	Northeast Region Location	Midwest Region Location	South Region Location	West Region Location
Manager	40.80 1.07*	12.81 2.69*	2.75 -0.10*	.027	-.07	.01	.05	.06	-.068	.015	-.017	.012	.023
Technical/Sales	41.57 -1.74*	13.62 -0.00	2.80 -0.30*	.195	.01	-.01	.00	-.12	-.039	-.002	-.006	.025	-.002
Service	41.21 -0.73*	13.79 -1.52*	2.74 -0.11*	.103	.11	.02	-.10	-.11	-.021	.017	-.009	.000	.008
Farm	41.13 -0.48	13.65 -3.00*	2.72 0.24*	-.047	.00	-.01	.00	.01	.073	-.026	-.013	-.011	.012
Production/Repair	41.28 -1.88*	13.75 -1.57*	2.69 0.45*	-.179	-.04	-.01	.04	.09	.036	-.007	.000	-.002	-.012
Operator	41.30 -1.09*	13.95 -2.18*	2.66 0.40*	-.135	.05	-.03	-.03	.05	.059	-.002	.063	-.037	-.052
Armed Services	41.21 -9.87*	13.62 0.30	2.72 0.07	-.053	.00	.00	.00	.03	-.019	-.031	-.038	.018	.055
Private Sector	40.53 7.93*	13.59 0.39*	2.726 0.008	.012	-.01	-.02	.02	-.04	-.046	.026	.052	-.009	-.043
Government Sector	44.10 -4.11*	14.42 -1.08*	2.725 0.002	.044	.05	.02	-.05	.00	.006	-.023	-.047	.017	.041
Self-employed	40.82 1.23*	13.41 1.21*	2.73 -0.02	-.082	-.06	.01	.04	.06	.066	-.01	-.017	-.009	.011
Hours per Week	-.068*	.095*	.134*	75.94 -10.89*	41.91 - 2.34*	41.65 .19	40.22 1.69*	39.27 4.15*	41.40 0.23	41.77 -0.62	41.63 0.12*	41.50 0.56	41.74 -0.33*
Weeks per Year	-.009	.086*	.106*	43.62 -5.31*	72.4 - 4.57*	71.82 2.98*	69.79 2.50*	64.13 13.60*	76.72 -4.37*	71.85 0.54	71.47 2.00*	71.34 2.15*	72.79 -3.44*

Note: Statistics marked with an asterisk are significant at the .05 level

1 Intercept and parameter estimates from Tobit model are presented in the light grey boxes.

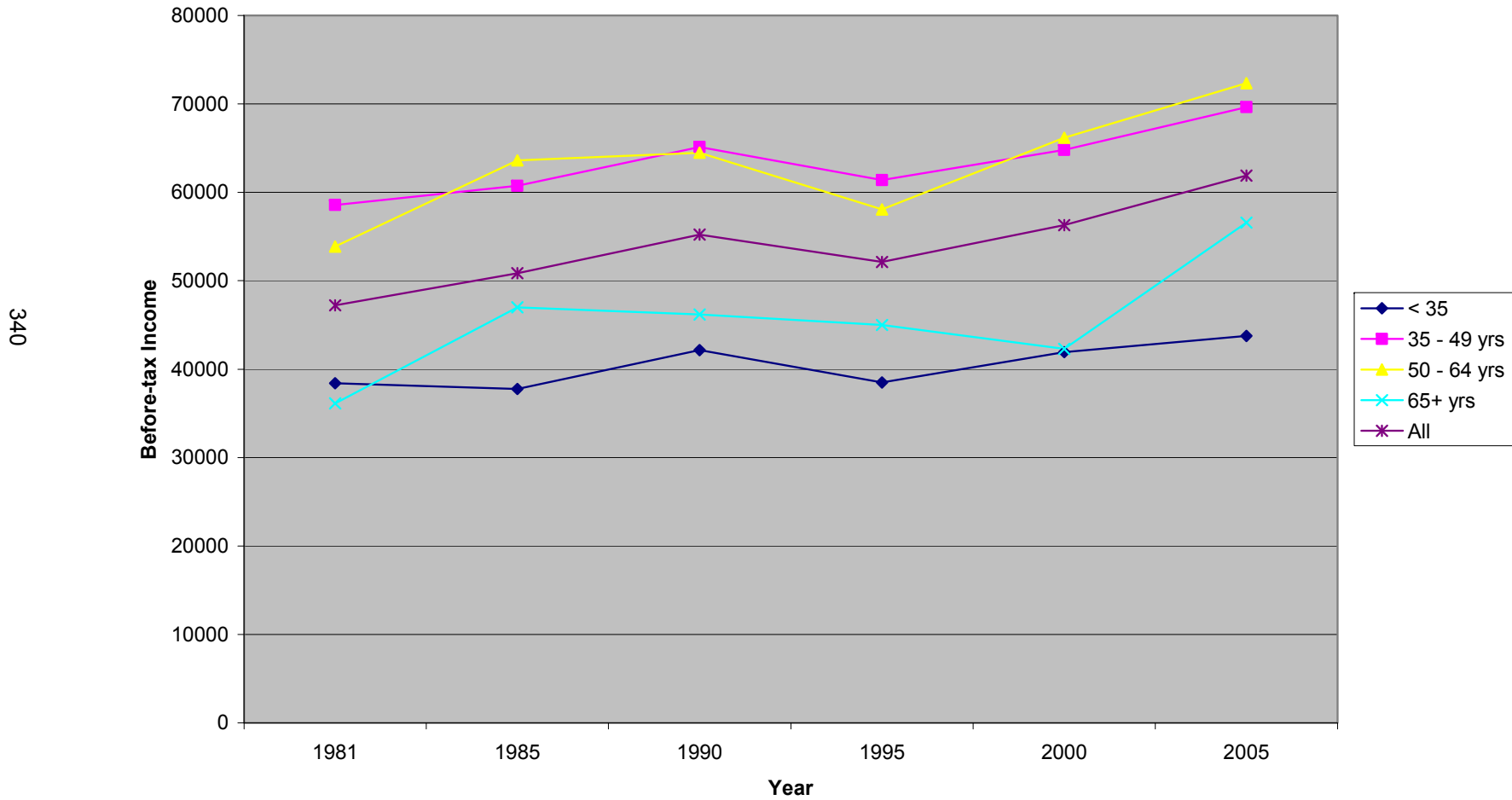
2 Cramer's V is presented in the blue boxes for correlations between two dichotomous variables.

3 F test for the overall fit of ANOVA is presented in the purple boxes to test for difference of means between categories of ordinal variables

4 Pearson correlation coefficients are presented in the white boxes.

APPENDIX F: BEFORE-TAX INCOME, BY AGE

**Average Before-tax Income (in 2005 Dollars),
by age group, 1981-2005**



APPENDIX G: REGRESSION RESULTS

(Note: All models covered below utilize an auto-regressive covariance structure.)

Table 1: Regression results for proportion of total expenditures allocated to food at home (non-transformed)

	Model 1: Base Model	Model 2: Base with Occupation- Year Interactions	Model 3: Base with Sector-Year Interactions	Model 4: Base with Working Time- Year Interactions	Model 5: Base with Unemployment Rate-Year Interaction	Model 6: Base with All Interactions
Sample size for food at home models: 16,276						
McFadden's R-square: .173						
Intercept	54.6* (34.3)	53.9* (33.1)	54.3* (33.9)	52.1* (27.1)	54.5* (34.3)	51.4* (25.8)
Year (0 – 24)	.33* (13.09)	.32* (9.81)	.35* (12.67)	.51* (6.31)	.25* (6.66)	.46* (4.88)
Unemployment rate for occupation/year	.50* (5.41)	.84* (5.48)	.52* (5.55)	.52* (5.58)	.68* (6.27)	.83* (5.43)
Unemployment rate*Year Interaction	.	.	.	.	.029* (3.17)	.021 (1.53)
Occupational Measures						
Reference occupational category: Administrators/managers						
Technical/Sales	.38 (.96)	-.37 (-.45)	.33 (.81)	.35 (.87)	-.64 (-1.25)	-.34 (-.41)
Service	-.046 (-.07)	-4.09* (-2.95)	-.142 (-.22)	-.097 (-.15)	-2.60* (-2.52)	-3.81* (-2.73)
Farm	3.48* (2.64)	2.26 (.93)	3.43* (2.61)	3.47* (2.63)	.56 (.35)	3.15 (1.28)
Production/Repair	1.77* (2.71)	-1.12 (-.80)	1.71* (2.62)	1.71* (2.63)	.004 (.01)	-.94 (-.67)
Operator	.60 (.77)	-4.29* (-2.13)	.49 (.62)	.53 (.67)	-2.54* (-2.01)	-4.07* (-2.02)
Reference occupation/year interaction: Administrators/managers*Year						
Tech/Sales*Year Interaction	.	.004 (.1)	.	.	.	-.034 (-.70)
Service*Year Interaction	.	.17 (2.85)	.	.	.	.065 (.81)
Farm*Year Interaction	.	-.039 (-.26)	.	.	.	-.21 (-1.18)

Prod/Repair*Year Interaction	.	.124 (1.74)	.	.	.	.055 (.68)
Operator*Year Interaction	.	.198 (2.50)	.	.	.	.081 (.80)
Reference sector category: Private sector						
Government sector	.24 (.70)	.23 (.66)	1.04 (1.61)	.23 (.67)	.24 (.68)	.95 (1.46)
Self-employed	-4.02 (-2.57)	-3.95* (-2.53)	2.96 (.35)	-3.99* (-2.55)	-3.93* (-2.51)	1.98 (.23)
Reference sector/year interaction: Private sector*Year						
Government sector*Year Interaction	.	.	-.061* (-1.46)	.	.	-.056 (-1.32)
Self-Employed*Year Interaction	.	.	-.417* (-.83)	.	.	-.35 (-.70)
Hours worked/week	-.012 (-1.04)	-.013 (-1.05)	-.013 (-1.05)	-.007 (-.30)	-.013 (-1.06)	-.009 (-.37)
Weeks worked/year	.021* (-1.04)	.02* (1.91)	.021* (1.96)	.070* (3.13)	.020 (1.91)	.066* (2.95)
Hours worked*Year Interaction	.	.	.	-.001 (-.30)	.	-.000 (-.20)
Weeks worked*Year Interaction	.	.	.	-.003* (-2.50)	.	-.003* (-2.32)
Demographic Controls						
After-tax household income (in thousands)	-.108* (-23.46)	-.11* (-23.14)	-.11* (-23.47)	-.11* (-23.10)	-.11* (-23.22)	-.11* (-22.92)
Age	.192* (18.85)	.093 (18.84)	.193* (18.82)	.191* (18.64)	.193* (18.84)	.191* (18.62)
Educational attainment	-.671* (-12.19)	-.67* (-12.20)	-.671* (-12.19)	-.672* (-12.21)	-.674* (-12.25)	-.674* (-12.22)
Female	3.09* (10.24)	3.13* (10.35)	3.11* (10.28)	3.11* (10.28)	3.13* (10.33)	3.15* (10.40)
Married	3.38* (9.81)	3.39* (9.82)	3.39* (9.82)	3.36* (9.75)	3.39* (9.83)	3.38* (9.83)
Black	5.72* (13.16)	5.72* (13.16)	5.71* (13.15)	5.73* (13.19)	5.74* (13.21)	5.72* (13.16)
Other race	-.589 (-.91)	-.556 (-.86)	-.585 (-.90)	-.578 (-.89)	-.532 (-.82)	-.536 (-.82)
Family size	3.22* (31.38)	3.22* (31.33)	3.22* (31.38)	3.21* (31.24)	3.22* (31.32)	3.21* (31.21)

Urbanicity	1.07* (2.13)	1.09 (2.16)	1.07* (2.12)	1.11* (2.20)	1.10* (2.18)	1.11* (2.21)
Midwest	-2.53* (-6.40)	-2.56* (-6.46)	-2.53* (-6.39)	-2.55* (-6.45)	-2.53* (-6.40)	-2.55* (-6.43)
South	-.648 (-1.70)	-.67 (-1.76)	-.647 (-1.69)	-.659 (-1.73)	-.625 (-1.64)	-.649 (-1.70)
West	.17 (.42)	.14 (.36)	.17 (.41)	.16 (.40)	.20 (.50)	.17 (.41)

Note: Each table cell includes the regression coefficient (β_x) and the standard error (SE), in parentheses.

* Significant at .05

Table 2: Regression results for proportion of total expenditures allocated to food away from home (log-transformed)

	Model 1: Base Model	Model 2: Base with Occupation- Year Interactions	Model 3: Base with Sector-Year Interactions	Model 4: Base with Working Time- Year Interactions	Model 5: Base with Unemployment Rate-Year Interaction	Model 6: Base with All Interactions
Sample size for food at home models: 17,239						
McFadden's R-square: .34						
Intercept	3.50* (48.04)	3.53* (47.39)	3.51* (47.95)	3.46* (39.20)	3.50* (48.09)	3.49* (38.03)
Year (0 – 24)	-.013* (-11.40)	-.013* (-8.76)	-.014* (-7.31)	-.011 (-2.85)	-.010* (-6.16)	-.010 (-2.27)
Unemployment rate for occupation/year	-.03* (-7.16)	-.04* (-6.27)	-.03* (-7.31)	-.03* (-7.09)	-.04* (-7.30)	-.04* (-6.20)
Unemployment rate*Year Interaction	.	.	.	.	-.001* (-2.27)	-.000 (-.18)
Occupational Measures						
Reference occupational category: Administrators/managers						
Technical/Sales	.021 (1.15)	.040 (1.09)	.024 (1.31)	.021 (1.13)	.055* (2.33)	.042 (1.12)
Service	.016 (-.53)	.161* (2.53)	-.011 (-.37)	-.012 (-.56)	.068 (1.44)	.167* (2.61)
Farm	-.061 (-.98)	.020 (.17)	-.058 (-.93)	-.061 (-.99)	.037 (.49)	.019 (.16)
Production/Repair	-.024 (-.83)	.074 (1.16)	-.022 (-.73)	-.025 (-.85)	.033 (.85)	.066 (1.04)
Operator	.025 (.71)	.223* (2.43)	.031 (.87)	.025 (.69)	.129* (2.22)	.215* (2.33)
Reference occupation/year interaction: Administrators/managers*Year						
Tech/Sales*Year Interaction	.	.0006 (.31)	.	.	.	.0007 (.34)
Service*Year Interaction	.	-.0079* (-2.84)	.	.	.	-.0079* (-2.11)
Farm*Year Interaction	.	-.0009 (-.12)	.	.	.	-.0004 (-.05)
Prod/Repair*Year Interaction	.	-.0035 (-1.08)	.	.	.	-.0027 (-.73)
Operator*Year Interaction	.	-.0081* (-2.23)	.	.	.	-.0070 (-1.52)

Reference sector category: Private sector						
Government sector	-.007 (-.42)	-.005 (-.35)	-.047 (1.62)	-.007 (-.42)	-.006 (-.40)	-.046 (-1.55)
Self-employed	.123 (1.74)	.120 (1.70)	.070 (.18)	.123 (1.74)	.120 (1.70)	.091 (.24)
Reference sector/year interaction: Private sector*Year						
Government sector*Year Interaction	.	.	.003 (.14)	.	.	.003 (1.61)
Self-Employed*Year Interaction	.	.	.003 (.40)	.	.	.002 (.08)
Hours worked/week	.0003 (.40)	.0002 (.38)	.0002 (.40)	.0004 (.39)	.0002 (.40)	.0005 (.44)
Weeks worked/year	.0014* (2.92)	.0015* (2.97)	.0014* (2.92)	.0020 (1.94)	.0014* (2.94)	.0023* (2.22)
Hours worked*Year Interaction	.	.	.	-.000 (-.22)	.	-.000 (-.30)
Weeks worked*Year Interaction	.	.	.	-.000 (-.63)	.	-.000 (-.92)
Demographic Controls						
After-tax household income (in thousands)	.005* (22.62)	.005* (22.34)	.005* (22.65)	.005* (22.55)	.005* (22.44)	.005* (22.35)
Age	-.008* (-16.13)	-.008* (-16.15)	-.008* (-16.11)	-.008* (-16.14)	-.008* (-16.13)	-.008* (-16.16)
Educational attainment	.036* (14.31)	.036* (14.35)	.036* (14.30)	.036* (14.30)	.036* (14.35)	.036* (14.34)
Female	-.13* (-9.20)	-.13* (-9.30)	-.13* (-9.25)	-.13* (-9.18)	-.13* (-9.26)	-.13* (-9.33)
Married	-.07* (-4.55)	-.07* (-4.54)	-.07* (-4.57)	-.07* (-4.56)	-.07* (-4.57)	-.07* (-4.58)
Black	-.27* (-13.29)	-.27* (-13.27)	-.27* (-13.28)	-.27* (-13.28)	-.27* (-13.31)	-.27* (-13.24)
Other race	-.04 (-1.47)	-.05 (-1.54)	-.04 (-1.47)	-.04 (-1.47)	-.05 (-1.54)	-.05 (-1.54)
Family size	-.13* (-28.19)	-.13* (-28.13)	-.13* (-28.18)	-.13* (-28.19)	-.13* (-28.15)	-.13* (-28.15)
Urbanicity	-.02 (-1.01)	-.02 (-1.04)	-.02 (-.99)	-.02 (-.99)	-.02 (-1.04)	-.02 (-1.00)
Midwest	.13* (7.38)	.13* (7.44)	.13* (7.38)	.13* (7.36)	.13* (7.38)	.13* (7.40)

South	.06* (3.27)	.06* (3.34)	.06* (3.28)	.06* (3.26)	.06* (3.23)	.06* (3.31)
West	.03 (1.73)	.03 (1.78)	.03 (1.74)	.03 (1.72)	.03 (1.67)	.03 (1.75)

Note: Each table cell includes the regression coefficient (β_x) and the standard error (SE), in parentheses.

* Significant at .05

Table 3: Regression results for proportion of total expenditures allocated to education (non-transformed)

	Model 1: Base Model	Model 2: Base with Occupation- Year Interactions	Model 3: Base with Sector-Year Interactions	Model 4: Base with Working Time- Year Interactions	Model 5: Base with Unemployment Rate-Year Interaction	Model 6: Base with All Interactions
Sample size for food at home models: 19,815						
McFadden's R-square: .11						
Intercept	10.3* (20.2)	10.1* (19.55)	10.2* (20.1)	12.1* (20.7)	10.3* (20.3)	11.8* (19.5)
Year (0 – 24)	.008 (1.03)	.013 (1.31)	.011 (1.31)	-.136* (-5.42)	.014 (1.18)	-.125* (-4.24)
Unemployment rate for occupation/year	.01 (.47)	.06 (1.15)	.02 (.58)	-.00 (-.07)	.00 (.04)	.05 (1.01)
Unemployment rate*Year Interaction	.	.	.	.	-.002 (-.67)	.001 (.20)
Occupational Measures						
Reference occupational category: Administrators/managers						
Technical/Sales	.21 (1.59)	.09 (.36)	.19 (1.50)	.25 (1.92)	.28 (1.66)	.06 (.25)
Service	.14 (.65)	.44 (1.03)	.12 (.56)	.19 (.91)	.32 (.93)	.26 (.61)
Farm	.22 (.52)	.25 (.36)	.21 (.49)	.19 (.48)	.42 (.82)	-.22 (-.31)
Production/Repair	-.53* (-2.47)	-.90* (-2.14)	-.54* (-2.52)	-.47* (-2.18)	-.40 (-1.41)	-.91* (-2.15)
Operator	-.15 (-.59)	-.77 (-1.26)	-.18 (-.68)	-.07 (-.27)	.07 (.16)	-.83 (-1.35)
Reference occupation/year interaction: Administrators/managers*Year						
Tech/Sales*Year Interaction	.	.003 (.22)	.	.	.	.005 (.33)
Service*Year Interaction	.	-.039* (-2.08)	.	.	.	-.029 (-1.13)
Farm*Year Interaction	.	-.022 (-.47)	.	.	.	.009 (.16)
Prod/Repair*Year Interaction	.	.019 (.85)	.	.	.	.019 (.73)
Operator*Year Interaction	.	.027	.	.	.	.029

		(1.12)				(.94)
Reference sector category: Private sector						
Government sector	.43* (3.80)	.42* (3.77)	.58* (3.00)	.44* (3.90)	.43* (3.81)	.56* (2.90)
Self-employed	.15 (.29)	.16 (.29)	.11 (.05)	.13 (.23)	.15 (.27)	-.10 (-.05)
Reference sector/year interaction: Private sector*Year						
Government sector*Year Interaction	.	.	-.013 (-.97)	.	.	-.011 (-.82)
Self-Employed*Year Interaction	.	.	.002 (.02)	.	.	.014 (.10)
Hours worked/week	-.06* (-14.65)	-.06* (-14.67)	-.06* (-14.65)	-.05* (-6.48)	-.06* (-14.65)	-.04* (-6.13)
Weeks worked/year	-.07* (-19.47)	-.07* (-19.42)	-.07* (-19.48)	-.12* (-18.41)	-.07* (-19.46)	-.12* (-18.22)
Hours worked*Year Interaction	.	.	.	-.001* (-2.04)	.	-.001* (-2.34)
Weeks worked*Year Interaction	.	.	.	.004* (9.48)	.	.004* (9.34)
Demographic Controls						
After-tax household income (in thousands)	.003 (1.84)	.003 (1.71)	.003 (1.84)	.002 (1.34)	.003 (1.79)	.002 (1.34)
Age	-.08* (-24.88)	-.08* (-24.92)	-.08* (-24.89)	-.08* (-24.11)	-.08* (-24.87)	-.08* (-24.18)
Educational attainment	.19* (10.91)	.19* (10.95)	.19* (10.91)	.19* (10.99)	.19* (10.92)	.19* (10.98)
Female	-.65* (-6.62)	-.65* (-6.63)	-.65* (-6.58)	-.65* (-6.66)	-.65* (-6.64)	-.65* (-6.59)
Married	-.38* (-3.41)	-.37* (-3.33)	-.38* (-3.40)	-.36* (-3.24)	-.38* (-3.42)	-.35* (-3.16)
Black	-.54* (-3.88)	-.54* (-3.85)	-.55* (-3.89)	-.54* (-3.87)	-.55* (-3.89)	-.54* (-3.16)
Other race	.37 (1.71)	.35 (1.64)	.36 (1.69)	.37 (1.74)	.36 (1.69)	.36 (1.70)
Family size	-.20* (-5.97)	-.19* (-5.86)	-.20* (-5.97)	-.19* (-5.61)	-.20* (-5.95)	-.20* (-5.57)
Urbanicity	-.47* (-2.90)	-.48* (-2.95)	-.47* (-2.91)	-.50* (-5.61)	-.47* (-2.91)	-.51* (-3.14)
Midwest	.002	-.008	.002	.014	.002	.002

	(.02)	(-.07)	(.02)	(.11)	(.01)	(.02)
South	-.69* (-5.55)	-.69* (-5.62)	-.69* (-5.55)	-.68* (-5.53)	-.69* (-5.56)	-.69* (-5.60)
West	-.49* (-3.79)	-.50* (-3.87)	-.50* (-3.79)	-.50* (-3.81)	-.50* (-3.81)	-.50* (-3.88)

Note: Each table cell includes the regression coefficient (β_x) and the standard error (SE), in parentheses.

* Significant at .05

Table 4: Regression results for proportion of total expenditure allocated to entertainment (log transformed)

	Model 1: Base Model	Model 2: Base with Occupation- Year Interactions	Model 3: Base with Sector-Year Interactions	Model 4: Base with Working Time- Year Interactions	Model 5: Base with Unemployment Rate-Year Interaction	Model 6: Base with All Interactions
Model sample size: 19,273						
McFadden's R-square: .26						
Intercept	1.39* (18.08)	1.47* (18.75)	1.41* (18.24)	1.27* (14.3)	1.39* (18.05)	1.39* (15.1)
Year (0 – 24)	-.001 (-.60)	-.004 (-2.28)	-.002 (-1.53)	.009 (2.26)	-.002 (-1.12)	.0000 (.02)
Unemployment rate for occupational group/year	-.016* (-3.57)	.039* (4.96)	-.018* (-3.85)	-.016* (-3.44)	-.014* (-2.49)	-.036 (-4.86)
Unemployment rate*Year Interaction	.	.	.	.	.0005 (.96)	.001 (1.81)
Occupational Measures						
Reference occupational category: Administrators/managers						
Technical/Sales	.022 (1.12)	.010 (.28)	.027 (1.37)	.021 (1.07)	.007 (.25)	.005 (.13)
Service	-.051 (-1.55)	.013 (.21)	-.043 (-1.30)	-.053 (-1.60)	-.091 (-1.72)	.013 (.20)
Farm	-.019 (-.29)	-.026 (-.24)	-.013 (-.21)	-.019 (-.30)	-.062 (-.79)	-.021 (-.19)
Production/Repair	.037 (1.15)	.174* (2.72)	.043* (1.31)	.036 (1.11)	.010 (.23)	.154* (2.40)
Operator	.052 (1.29)	.317* (3.44)	.063 (1.53)	.05 (1.25)	.003 (.05)	.287* (3.08)
Reference occupation/year interaction: Administrators/managers*Year						
Tech/Sales*Year Interaction	.	.005* (2.14)	.	.	.	.003 (1.18)
Service*Year Interaction	.	.003 (.96)	.	.	.	-.003 (-.74)
Farm*Year Interaction	.	.01* (1.31)	.	.	.	.002 (.25)
Prod/Repair*Year Interaction	.	-.005 (-1.53)	.	.	.	-.008* (-1.95)
Operator*Year Interaction	.	-.011*	.	.	.	-.015*

			(-2.92)			(-3.25)
Reference sector category: Private sector						
Government sector	.039* (2.32)	.042* (2.49)	-.023 (-.78)	.039* (2.32)	.039* (2.32)	-.01 (-.34)
Self-employed	.085 (1.05)	.082 (1.01)	.27 (.80)	.086 (1.06)	.086 (1.06)	.242 (.72)
Reference sector/year interaction: Private sector*Year						
Government sector*Year Interaction	.	.	.005* (2.63)	.	.	.004* (2.17)
Self-Employed*Year Interaction	.	.	-.011 (-.55)	.	.	-.009 (-.46)
Hours worked/week	-.001 (-1.33)	-.001 (-1.27)	-.001 (-1.33)	.001 (1.11)	-.001 (-1.33)	-.001 (.55)
Weeks worked/year	-.002* (-3.25)	-.002* (-3.28)	-.002* (-3.23)	-.001 (-.98)	-.002* (-3.27)	-.001 (-1.05)
Hours worked*Year Interaction	.	.	.	-.000* (-2.26)	.	-.000 (-1.52)
Weeks worked*Year Interaction	.	.	.	-.000 (-.88)	.	-.000 (-.79)
Demographic Controls						
After-tax household income (in thousands)	.002* (7.48)	.002* (7.68)	.002* (7.50)	-.002* (7.75)	.002* (7.52)	.002* (7.86)
Age	-.009* (-16.67)	-.008* (-16.69)	-.008* (-16.64)	-.008* (-16.74)	-.008* (-16.68)	-.008* (-16.72)
Educational attainment	.038* (14.48)	.038* (14.46)	.038* (14.47)	.038* (14.41)	.038* (14.45)	.038* (14.38)
Female	-.103* (-6.93)	-.103* (-6.91)	-.104* (-7.03)	-.102* (-6.85)	-.102* (-6.89)	-.104* (-6.96)
Married	-.011 (-.65)	-.011 (-.63)	-.012 (-.68)	-.012 (-.70)	-.011 (-.064)	-.013 (-.75)
Black	-.268* (-12.38)	-.267* (-12.38)	-.269* (-12.33)	-.267* (-12.36)	-.267* (-12.36)	-.267* (-12.33)
Other race	-.24* (-7.38)	-.237* (-7.29)	-.238 (-7.31)	-.239* (-7.35)	-.24* (-7.35)	-.235* (-7.21)
Family size	.007 (1.44)	.006 (1.27)	.008 (1.52)	.007 (1.31)	.007 (1.42)	.006 (1.19)
Urbanicity	-.007 (-.29)	-.005 (-.22)	-.005 (-.19)	-.006 (-.25)	-.007 (-.27)	-.003 (-.14)

Midwest	.091* (4.74)	.094* (4.87)	.094* (4.74)	.091* (4.70)	.091* (4.74)	.094* (4.89)
South	-.041* (-2.19)	-.037* (-2.07)	-.041* (-2.17)	-.042* (-2.25)	-.041* (-2.17)	-.038* (-2.02)
West	.027 (1.37)	.030 (1.49)	.027 (1.37)	.026 (1.34)	.028 (1.39)	.03 (1.55)

Note: Each table cell includes the regression coefficient (β_x) and the standard error (SE), in parentheses.

* Significant at .05

Table 5: Regression results for proportion of total expenditures allocated to household equipment (log-transformed)

	Model 1: Base Model	Model 2: Base with Occupation- Year Interactions	Model 3: Base with Sector-Year Interactions	Model 4: Base with Working Time- Year Interactions	Model 5: Base with Unemployment Rate-Year Interaction	Model 6: Base with All Interactions
Sample size for food at home models: 19,455						
McFadden's R-square: .151						
Intercept	.51* (4.35)	.55* (4.61)	.51* (4.31)	.18 (1.35)	.53* (4.48)	.23 (1.61)
Year (0 – 24)	-.02* (-10.02)	-.02* (-8.67)	-.02* (-9.12)	.01 (1.43)	-.01* (-4.57)	.01 (2.13)
Unemployment rate for occupation/year	-.01 (-.98)	-.02 (-1.53)	-.01 (-.93)	-.00 (-.65)	-.02* (-2.34)	-.02 (-1.62)
Unemployment rate*Year Interaction	.	.	.	.	-.002* (-2.68)	-.003* (-3.08)
Occupational Measures						
Reference occupational category: Administrators/managers						
Technical/Sales	-.09* (-3.06)	-.12* (-2.10)	-.09* (-3.08)	-.10* (-3.24)	-.02 (-.50)	-.08 (-1.36)
Service	-.17* (-3.33)	-.12 (-1.23)	-.17* (-3.36)	-.18* (-3.51)	.01 (.07)	-.05 (-.47)
Farm	-.15 (1.53)	-.00 (-.02)	-.15 (1.55)	-.15 (1.48)	.03 (.27)	.05 (.30)
Production/Repair	-.09 (-1.92)	-.04 (-.42)	-.10* (-1.94)	-.10* (-2.09)	.03 (.42)	.00 (.01)
Operator	-.15 (-2.36)	-.01 (-.04)	-.15 (-2.39)	-.16 (-2.54)	.07 (.71)	.08 (.53)
Reference occupation/year interaction: Administrators/managers*Year						
Tech/Sales*Year Interaction	.	.004 (1.30)	.	.	.	.007 (1.95)
Service*Year Interaction	.	.001 (.14)	.	.	.	.010 (1.60)
Farm*Year Interaction	.	-.009 (-.75)	.	.	.	.006 (.44)
Prod/Repair*Year Interaction	.	-.001 (-.19)	.	.	.	.006 (.98)
Operator*Year Interaction	.	-.006 (-1.04)	.	.	.	.006 (.85)

Reference sector category: Private sector						
Government sector	.007 (.27)	.009 (.36)	.021 (.49)	.005 (.19)	.007 (.28)	.022 (.51)
Self-employed	.047 (.39)	.048 (.40)	-.074 (-.15)	.050 (.42)	.042 (.35)	-.010 (-.02)
Reference sector/year interaction: Private sector*Year						
Government sector*Year Interaction	.	.	-.001 (-.40)	.	.	-.001 (-.44)
Self-Employed*Year Interaction	.	.	.007 (.25)	.	.	.003 (.11)
Hours worked/week	.001 (1.57)	.001 (1.59)	.001 (1.57)	.003 (1.91)	.001 (1.57)	.003 (1.79)
Weeks worked/year	.000 (.46)	.000 (.48)	.000 (.45)	.006* (3.95)	.000 (.49)	.006* (4.04)
Hours worked*Year Interaction	.	.	.	-.000 (-1.30)	.	-.000 (-1.16)
Weeks worked*Year Interaction	.	.	.	-.001* (-4.39)	.	-.001* (-4.48)
Demographic Controls						
After-tax household income (in thousands)	.002* (7.07)	.003* (7.10)	.002* (7.06)	.003* (7.47)	.002* (6.87)	.003* (7.44)
Age	-.001 (-1.57)	-.001 (-1.59)	-.001 (-1.58)	-.001 (-1.92)	-.001 (-1.57)	-.002* (-1.96)
Educational attainment	.01* (3.05)	.01* (3.08)	.01* (3.05)	.01* (2.98)	.01* (3.11)	.01* (3.05)
Female	.07* (3.02)	.07* (3.02)	.07* (3.03)	.07* (3.09)	.07* (2.93)	.07* (3.06)
Married	.27* (10.65)	.27* (10.66)	.27* (10.66)	.27* (10.57)	.27* (10.65)	.27* (10.57)
Black	-.08* (-2.41)	-.08* (-2.43)	-.08* (-2.41)	-.08* (-2.39)	-.08* (-2.45)	-.08* (-2.41)
Other race	-.23* (-4.68)	-.23* (-4.66)	-.23* (-4.69)	-.23* (-4.66)	-.23* (-4.75)	-.23* (-4.73)
Family size	-.04* (-5.07)	-.04* (-5.12)	-.04* (-5.07)	-.04* (-5.33)	-.04* (-5.01)	-.04* (-5.36)
Urbanicity	.04 (.95)	.04 (.97)	.04 (.94)	.04 (1.06)	.03 (.93)	.04 (1.03)
Midwest	.07* (2.46)	.07* (2.52)	.07* (2.46)	.07* (2.40)	.07* (2.45)	.07* (2.35)

South	.00 (.06)	.00 (.10)	.00 (.05)	-.00 (-.01)	.00 (.01)	-.00 (-.10)
West	.07* (2.23)	.07* (2.27)	.07* (2.23)	.06* (2.20)	.06* (2.17)	.06* (2.09)

Note: Each table cell includes the regression coefficient (β_x) and the standard error (SE), in parentheses.

* Significant at .05

Table 6: Regression results for proportion of total expenditures allocated to personal care (transformed)

	Model 1: Base Model	Model 2: Base with Occupation- Year Interactions	Model 3: Base with Sector-Year Interactions	Model 4: Base with Working Time- Year Interactions	Model 5: Base with Unemployment Rate-Year Interaction	Model 6: Base with All Interactions
Sample size for food at home models: 18,113						
McFadden's R-square: .156						
Intercept	.22 (2.76)	.32* (3.88)	.23* (2.79)	.32* (3.40)	.24* (2.95)	.41* (4.24)
Year (0 – 24)	-.017* (-13.55)	-.016* (-9.93)	-.017* (-12.71)	-.024* (-6.00)	-.010* (-5.30)	-.021* (-4.51)
Unemployment rate for occupation/year	-.045* (-9.17)	-.094* (-11.99)	-.046* (-9.17)	-.046* (-9.32)	-.061* (-10.33)	-.094* (-12.07)
Unemployment rate*Year Interaction	.	.	.	.	-.002* (-4.85)	-.001 (-.90)
Occupational Measures						
Reference occupational category: Administrators/managers						
Technical/Sales	.099* (4.82)	.241* (6.29)	.100* (4.85)	.100* (4.92)	.185* (6.83)	.245* (6.31)
Service	.20* (5.80)	.63* (9.10)	.20* (5.82)	.20* (5.87)	.41* (7.41)	.63* (9.00)
Farm	.21* (3.14)	.43* (3.83)	.21* (3.16)	.21* (3.11)	.44* (5.34)	.41* (3.60)
Production/Repair	.07 (1.94)	.45* (6.79)	.07* (1.96)	.07* (2.04)	.21* (4.69)	.46* (6.85)
Operator	.26* (6.20)	.95* (9.74)	.27* (6.22)	.27* (6.30)	.53* (7.64)	.96* (9.75)
Reference occupation/year interaction: Administrators/managers*Year						
Tech/Sales*Year Interaction	.	-.003 (-1.42)	.	.	.	-.002 (-.92)
Service*Year Interaction	.	-.014* (-4.73)	.	.	.	-.011* (-2.78)
Farm*Year Interaction	.	.004 (.47)	.	.	.	.009 (1.04)
Prod/Repair*Year Interaction	.	-.017* (-4.71)	.	.	.	-.016* (-3.86)
Operator*Year Interaction	.	-.029* (-7.55)	.	.	.	-.027* (-5.38)

Reference sector category: Private sector						
Government sector	-.06* (-3.35)	-.06* (-3.19)	-.07* (-2.35)	-.06* (-3.33)	-.06* (-3.32)	-.05 (-1.63)
Self-employed	-.03 (-.33)	-.03 (-.41)	.27 (.77)	-.28 (-.34)	-.03 (-.42)	.32 (.92)
Reference sector/year interaction: Private sector*Year						
Government sector*Year Interaction	.	.	.001 (.49)	.	.	-.001 (-.25)
Self-Employed*Year Interaction	.	.	-.018 (-.88)	.	.	-.021 (-1.06)
Hours worked/week	-.004 (-6.42)	-.004 (-6.35)	-.004 (-6.43)	-.003 (-3.05)	-.004 (-6.41)	-.003 (-3.00)
Weeks worked/year	-.004* (-7.55)	-.004* (-7.55)	-.004* (-7.55)	-.007* (-6.59)	-.004* (-7.50)	-.007* (-6.37)
Hours worked*Year Interaction	.	.	.	-.000 (-.68)	.	-.000 (-.64)
Weeks worked*Year Interaction	.	.	.	.000* (3.05)	.	.000* (2.81)
Demographic Controls						
After-tax household income (in thousands)	-.001* (-2.33)	-.001* (-2.71)	-.001* (-2.32)	-.001* (-2.47)	-.001* (-2.65)	-.001* (-2.81)
Age	.003* (6.69)	.004* (6.81)	.003* (6.70)	.004* (6.90)	.003* (6.70)	.004* (6.99)
Educational attainment	.004 (1.67)	.005 (1.71)	.004 (1.65)	.005 (1.70)	.005 (1.78)	.005 (1.72)
Female	.15* (9.48)	.14* (9.22)	.15* (9.44)	.15* (9.47)	.14* (9.34)	.14* (9.21)
Married	.09* (4.95)	.08* (4.86)	.09* (4.94)	.09* (5.01)	.09* (4.94)	.09* (4.90)
Black	.48* (21.17)	.47* (21.02)	.48* (21.17)	.48* (21.18)	.48* (21.11)	.47* (21.04)
Other race	-.05 (-1.61)	-.06 (-1.64)	-.05 (-1.59)	-.05 (-1.58)	-.06 (-1.74)	-.05 (-1.60)
Family size	-.02* (-3.85)	-.02* (-3.74)	-.02* (-3.85)	-.02* (-3.72)	-.02* (-3.73)	-.02* (-3.64)
Urbanicity	-.21* (-8.01)	-.21* (-8.01)	-.21* (-8.00)	-.21* (-8.06)	-.21* (-8.08)	-.21* (-8.06)
Midwest	-.06* (-2.92)	-.05* (-2.68)	-.06* (-2.90)	-.06* (-2.89)	-.06* (-2.91)	-.05* (-2.68)

South	-02 (-1.05)	-02 (-.81)	-02 (-1.04)	-02 (-1.06)	-02 (-1.12)	-02 (-.85)
West	-.13* (-6.26)	-.12* (-6.09)	-.13* (-6.27)	-.13* (-6.26)	-.13* (-6.38)	-.12* (-6.14)

Note: Each table cell includes the regression coefficient (β_x) and the standard error (SE), in parentheses.

* Significant at .05

Table 7: Regression results for proportion of total expenditures allocated to utilities (transformed)

	Model 1: Base Model	Model 2: Base with Occupation- Year Interactions	Model 3: Base with Sector-Year Interactions	Model 4: Base with Working Time- Year Interactions	Model 5: Base with Unemployment Rate-Year Interaction	Model 6: Base with All Interactions
Sample size for food at home models: 17,956						
McFadden's R-square: .34						
Intercept	.98* (16.8)	1.01* (17.06)	.96 (16.42)	.82* (12.08)	.53* (4.48)	.23 (1.61)
Year (0 – 24)	.008* (9.42)	.006* (4.84)	.01* (10.17)	.022* (7.50)	-.01* (-4.57)	.01 (2.13)
Unemployment rate for occupation/year	-.000 (-.05)	.003 (.61)	.001 (.40)	.001 (.32)	-.02* (-2.34)	-.02 (-1.62)
Unemployment rate*Year Interaction	.	.	.	.	-.002* (-2.68)	-.003* (-3.08)
Occupational Measures						
Reference occupational category: Administrators/managers						
Technical/Sales	.042* (2.83)	-.007 (-.26)	.037* (2.47)	.039* (2.60)	-.02 (-.50)	-.08 (-1.36)
Service	.064* (2.58)	-.068 (-1.38)	.056 (2.21)	.06* (2.41)	.01 (.07)	-.05 (-.47)
Farm	-.16* (-3.31)	-.483* (-5.88)	-.17* (-3.42)	-.159* (-3.29)	.03 (.27)	.05 (.30)
Production/Repair	.079* (3.20)	.024 (.51)	.074* (2.98)	.074* (3.01)	.03 (.42)	.00 (.01)
Operator	.072 (2.36)	.004 (.06)	.062* (2.0)	.066* (2.15)	.07 (.71)	.08 (.53)
Reference occupation/year interaction: Administrators/managers*Year						
Tech/Sales*Year Interaction	.	.003* (2.09)	.	.	.	.007 (1.95)
Service*Year Interaction	.	.009* (4.13)	.	.	.	.010 (1.60)
Farm*Year Interaction	.	.027* (4.83)	.	.	.	.006 (.44)
Prod/Repair*Year Interaction	.	.003 (1.23)	.	.	.	.006 (.98)
Operator*Year Interaction	.	.003 (1.24)	.	.	.	.006 (.85)

Reference sector category: Private sector						
Government sector	.006 (.47)	.006 (.46)	.074* (3.35)	.005 (.14)	.007 (.28)	.022 (.51)
Self-employed	-.047 (-.78)	-.05 (-.82)	.216 (.84)	-.045 (-.74)	.042 (.35)	-.010 (-.02)
Reference sector/year interaction: Private sector*Year						
Government sector*Year Interaction	.	.	-.006* (-3.77)	.	.	-.001 (-.44)
Self-Employed*Year Interaction	.	.	-.016 (-1.07)	.	.	.003 (.11)
Hours worked/week	.000 (.16)	.000 (.09)	.000 (.13)	-.000 (-.18)	.001 (1.57)	.003 (1.79)
Weeks worked/year	.001* (3.62)	.001* (3.49)	.001* (3.61)	.005* (7.12)	.000 (.49)	.006* (4.04)
Hours worked*Year Interaction	.	.	.	.000 (.23)	.	-.000 (-1.16)
Weeks worked*Year Interaction	.	.	.	-.000* (-6.13)	.	-.001* (-4.48)
Demographic Controls						
After-tax household income (in thousands)	-.004* (-19.78)	-.003* (-19.06)	-.004* (-19.8)	-.003* (-19.24)	.002* (6.87)	.003* (7.44)
Age	.011* (30.84)	.012* (30.79)	.012* (30.82)	.011* (30.24)	-.001 (-1.57)	-.002* (-1.96)
Educational attainment	-.009 (-4.55)	-.009 (-4.78)	-.009 (-4.56)	-.009* (-4.65)	.01* (3.11)	.01* (3.05)
Female	.117* (10.16)	.116 (10.33)	.116* (10.3)	.115* (10.24)	.07* (2.93)	.07* (3.06)
Married	.034* (2.66)	.033* (2.62)	.034* (2.70)	.033* (2.56)	.27* (10.65)	.27* (10.57)
Black	.17* (10.6)	.173* (10.8)	.169* (10.56)	.17* (10.61)	-.08* (-2.45)	-.08* (-2.41)
Other race	-.101* (-4.13)	-.097 (-3.96)	-.10* (-4.18)	-.101* (-4.13)	-.23* (-4.75)	-.23* (-4.73)
Family size	.077 (20.4)	.076 (20.16)	.077* (20.40)	.076* (20.11)	-.04* (-5.01)	-.04* (-5.36)
Urbanicity	.087* (4.65)	.089* (4.76)	.086* (4.61)	.089* (4.77)	.03 (.93)	.04 (1.03)
Midwest	-.007 (-.45)	-.007 (-.51)	-.006 (-.43)	-.008 (-.55)	.07* (2.45)	.07* (2.35)

South	.06* (4.24)	.059* (4.19)	.06* (4.24)	.059* (4.18)	.00 (.01)	-.00 (-.10)
West	-.23* (-15.7)	-.23 (-15.65)	-.23* (-15.7)	-.23* (-15.68)	.06* (2.17)	.06* (2.09)

Note: Each table cell includes the regression coefficient (β_x) and the standard error (SE), in parentheses.

* Significant at .05

Table 8: Regression results for proportion of total expenditures allocated to short-term spending (transformed)

	Model 1: Base Model	Model 2: Base with Occupation- Year Interactions	Model 3: Base with Sector-Year Interactions	Model 4: Base with Working Time- Year Interactions	Model 5: Base with Unemployment Rate-Year Interaction	Model 6: Base with All Interactions
Model sample size: 17,024						
McFadden's R-square: .367						
Intercept	3.51* (71.36)	3.52* (70.35)	3.51* (71.24)	3.47* (61.18)	3.51* (71.47)	3.49* (59.54)
Year (0 – 24)	-.02* (-22.04)	-.02* (-17.44)	-.02* (-21.16)	-.01* (-5.86)	-.01* (-11.56)	-.01* (-3.69)
Unemployment rate for occupation/year	-.02* (-5.28)	-.02* (-4.50)	-.02* (-5.46)	-.02* (-5.26)	-.02* (-6.59)	-.02* (-4.53)
Unemployment rate*Year Interaction	.	.	.	.	-.001* (-3.96)	-.002* (-4.26)
Occupational Measures						
Reference occupational category: Administrators/managers						
Technical/Sales	.03* (2.24)	.02 (.85)	.03* (2.39)	.03* (2.24)	.07* (4.25)	.04 (1.49)
Service	-.03 (-1.20)	.05 (1.15)	-.02 (-1.02)	-.02 (-1.21)	.08* (2.32)	.07 (1.67)
Farm	.05 (1.25)	.04 (.62)	.05 (1.30)	.05 (1.25)	.16* (3.31)	.03 (.38)
Production/Repair	.02 (1.06)	.05 (1.32)	.02 (1.16)	.02 (1.07)	.10* (3.41)	.06 (1.51)
Operator	.06* (2.47)	.13* (2.23)	.07* (2.63)	.06* (2.48)	.20* (4.64)	.16* (2.60)
Reference occupation/year interaction: Administrators/managers*Year						
Tech/Sales*Year Interaction	.	.002 (1.23)	.	.	.	.004* (2.57)
Service*Year Interaction	.	-.004 (-1.95)	.	.	.	.003 (1.24)
Farm*Year Interaction	.	.003 (.72)	.	.	.	.015* (2.84)
Prod/Repair*Year Interaction	.	-.001 (-.38)	.	.	.	.004 (1.73)
Operator*Year Interaction	.	-.003 (-1.08)	.	.	.	.006 (1.97)

Reference sector category: Private sector						
Government sector	.01 (1.22)	.01 (1.27)	-.01 (-.78)	.01 (1.22)	.01 (1.24)	-.02 (-.88)
Self-employed	.10 (1.93)	.10 (1.91)	-.03 (-.16)	.10 (1.93)	.10 (1.86)	-.00 (-.02)
Reference sector/year interaction: Private sector*Year						
Government sector*Year Interaction	.	.	.002 (1.83)	.	.	.003 (1.96)
Self-Employed*Year Interaction	.	.	.008 (.64)	.	.	.006 (.47)
Hours worked/week	-.000 (-.92)	-.000 (-.91)	-.000 (-.91)	.001 (1.37)	-.000 (-.90)	.001 (1.49)
Weeks worked/year	-.003* (-8.18)	-.003* (-8.14)	-.003* (-8.17)	-.003* (-5.11)	-.003* (-8.12)	-.003* (-4.94)
Hours worked*Year Interaction	.	.	.	-.000* (2.28)	.	-.000* (2.41)
Weeks worked*Year Interaction	.	.	.	.000 (.89)	.	.000 (.74)
Demographic Controls						
After-tax household income (in thousands)	.002* (13.63)	.002* (13.51)	.002* (13.64)	.002* (13.73)	.002* (13.32)	.002* (13.69)
Age	-.007* (-22.03)	-.007* (-22.06)	-.007* (-22.01)	-.007* (-21.93)	-.007* (-21.99)	-.007* (-21.98)
Educational attainment	.01* (8.28)	.01* (8.28)	.01* (8.28)	.01* (8.22)	.01* (8.39)	.01* (8.24)
Female	-.05* (-4.94)	-.05* (-4.97)	-.05* (-5.00)	-.05* (-4.88)	-.05* (-5.05)	-.05* (-4.98)
Married	-.05* (-4.29)	-.05* (-4.26)	-.05* (-4.31)	-.05* (-4.30)	-.05* (-4.32)	-.05* (-4.33)
Black	-.14* (-10.34)	-.14* (-10.32)	-.14* (-10.31)	-.14* (-10.31)	-.14* (-10.41)	-.14* (-10.24)
Other race	-.14* (-6.67)	-.14* (-6.69)	-.14* (-6.66)	-.14* (-6.64)	-.14* (-6.78)	-.14* (-6.70)
Family size	-.03* (-7.89)	-.03* (-7.88)	-.03* (-7.89)	-.03* (-7.93)	-.03* (-7.80)	-.03* (-7.92)
Urbanicity	-.02 (-1.06)	-.02 (-1.08)	-.02 (-1.04)	-.02 (-1.06)	-.02 (-1.11)	-.02 (-1.09)
Midwest	.05* (3.73)	.05* (3.73)	.05* (3.71)	.05* (3.70)	.05* (3.73)	.04* (3.56)

South	-.05* (-4.38)	-.05* (-4.38)	-.05* (-4.38)	-.05* (-4.43)	-.05* (-4.45)	-.06* (-4.64)
West	-.05* (-3.75)	-.05* (-3.75)	-.05* (-3.74)	-.05* (-3.78)	-.05* (-3.83)	-.05* (-3.99)

Note: Each table cell includes the regression coefficient (β_x) and the standard error (SE), in parentheses.

* Significant at .05

Table 9: Regression results for proportion of total expenditures allocated to long-term spending (transformed)

	Model 1: Base Model	Model 2: Base with Occupation- Year Interactions	Model 3: Base with Sector-Year Interactions	Model 4: Base with Working Time- Year Interactions	Model 5: Base with Unemployment Rate-Year Interaction	Model 6: Base with All Interactions
Sample size: 16,376						
McFadden's R-square: .337						
Intercept	2.82* (63.49)	2.81* (61.77)	2.81* (62.98)	2.40* (47.01)	2.82* (63.37)	2.38* (45.14)
Year (0 – 24)	.01* (16.64)	.01* (10.40)	.01* (16.59)	.05* (21.53)	.01* (10.43)	.05* (19.82)
Unemployment rate for occupation/year	.01* (1.96)	.03* (5.75)	.01* (2.29)	.01* (3.19)	.01* (2.51)	.03* (6.13)
Unemployment rate*Year Interaction	.	.	.	.	.00 (1.58)	-.00* (-6.88)
Occupational Measures						
Reference occupational category: Administrators/managers						
Technical/Sales	-.05* (-3.99)	-.17* (-7.57)	-.05* (-4.23)	-.05* (-4.73)	-.06* (-4.03)	-.12* (-5.59)
Service	-.05* (-2.55)	-.31* (-7.74)	-.06* (-2.82)	-.06* (-3.21)	-.09* (-2.80)	-.24* (-5.92)
Farm	-.08* (-2.11)	-.31* (-5.00)	-.08* (-2.19)	-.08* (-2.11)	-.12* (-2.63)	-.25* (-4.13)
Production/Repair	-.04* (-2.07)	-.21* (-5.48)	-.04* (-2.24)	-.05* (-2.70)	-.07* (-2.58)	-.18* (-4.64)
Operator	-.07* (-2.93)	-.39* (-6.67)	-.08* (-3.19)	-.09* (-3.66)	-.12* (-3.02)	-.33* (-5.60)
Reference occupation/year interaction: Administrators/managers*Year						
Tech/Sales*Year Interaction	.	.01* (5.09)				.01* (5.68)
Service*Year Interaction	.	.01* (7.20)				.02* (8.13)
Farm*Year Interaction	.	.01* (2.47)				.02* (4.71)
Prod/Repair*Year Interaction	.	.01* (3.50)				.01* (5.81)
Operator*Year Interaction	.	.01*				.01*

		(6.16)				(8.48)
Reference sector category: Private sector						
Government sector	-.01 (-.61)	-.01 (-.56)	.03 (1.85)	-.01 (-.77)	-.01 (-.62)	.02 (1.24)
Self-employed	.03 (.54)	.03 (.59)	.13 (.65)	.03 (.61)	.03 (.56)	.13 (.68)
Reference sector/year interaction: Private sector*Year						
Government sector*Year Interaction	.	.	-.003* (-2.70)			-.00* (-2.05)
Self-Employed*Year Interaction	.	.	-.01 (-.55)			-.01 (-.58)
Hours worked/week	.004* (10.40)	.004* (10.34)	.004* (10.39)	.006* (10.10)	.004* (10.39)	.006* (9.72)
Weeks worked/year	.006* (21.04)	.006* (20.96)	.006* (21.97)	.013* (24.18)	.006* (21.02)	.013* (23.68)
Hours worked*Year Interaction	.	.		-.00* (-5.26)		-.00* (-4.91)
Weeks worked*Year Interaction	.	.		-.00* (15.20)		-.00* (14.69)
Demographic Controls						
After-tax household income (in thousands)	-.002* (-11.83)	-.001* (-10.34)	-.002* (-11.85)	-.001* (-10.11)	-.002* (-11.68)	-.001* (-9.52)
Age	.006* (21.04)	.006* (20.96)	.006* (21.97)	.006* (20.88)	.006* (21.98)	.006* (20.79)
Educational attainment	-.00 (-1.69)	-.00 (-1.92)	-.00 (-1.70)	-.00 (-2.07)	-.00 (-1.73)	-.00* (-2.22)
Female	-.04* (5.02)	.05* (-5.36)	.04* (-5.13)	.04* (-5.32)	.04* (-5.07)	.05* (-5.61)
Married	.06* (5.92)	.06* (5.92)	.06* (5.94)	.05* (5.50)	.06* (5.92)	.05* (5.50)
Black	.09* (7.52)	.09* (7.71)	.09* (7.49)	.09* (7.68)	.09* (7.55)	.09* (7.80)
Other race	.06* (3.30)	.06* (3.50)	.06* (3.28)	.06* (3.42)	.06* (3.35)	.06* (3.41)
Family size	.03* (9.43)	.03* (9.12)	.03* (9.43)	.02* (8.60)	.03* (9.39)	.02* (8.48)
Urbanicity	-.09* (-6.53)	-.09* (-6.45)	-.09* (-6.57)	-.09* (-6.19)	-.09* (-6.50)	-.09* (-6.24)
Midwest	-.03* (-6.53)	-.03* (-6.45)	-.03* (-6.57)	-.03* (-6.19)	-.03* (-6.50)	-.04* (-6.24)

	(-2.76)	(-2.88)	(-2.75)	(-3.04)	(-2.76)	(-3.27)
South	.01 (.79)	.01 (.70)	.01 (.78)	.01 (.57)	.01 (.82)	.00 (.21)
West	.06* (5.59)	.06* (5.55)	.06* (5.58)	.06* (5.53)	.06* (5.61)	.06* (5.23)

Note: Each table cell includes the regression coefficient (β_x) and the standard error (SE), in parentheses.

* Significant at .05