

Statement of Research

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I am currently a Visiting Assistant Professor in the Department of Economics at Bowdoin College with an interest in the interplay between the labor market and macroeconomic conditions as it relates to the behavior of the United States economy before, during and after the Great Recession. I employ analysis of labor market and individual financial data to understand how slack demand affects the labor market and consumer finances.

The majority of my current research, both individual and joint, centers on those employed part time for economic reasons, the marginally attached, and the unemployed within the United States labor market. Regarding those employed part time for economic reasons, I first investigate the reasons behind the relative increase in those employed part time for economic reasons relative to the unemployment rate, and then delve into the welfare impacts of part time employment for economic reasons.

Marginal attachment to the labor force is typically not considered when measuring labor market slack. However, I find that those who are marginally attached have transition rates to employment that are similar to or higher than those who are unemployed for more than one month. Estimating reservation, offer and re-employment wages for the marginally attached using Maximum Likelihood techniques I find that the marginally attached are a heterogeneous group, and that heterogeneity is what likely drives differentiation from the unemployed.

Unemployment has a number of implications on consumption behavior and current joint work investigates the ways that individuals deal with income loss due to unemployment spells and compares observed behavior of the unemployed with optimizing behavior suggested by a simple life-cycle model – preliminary results suggest that individuals do not behave in the ways that such a model suggests.

My future work includes a model integrating my findings on the use of part time employment for economic reasons into a model of the macroeconomy, and a model of optimal firm behavior in the time of internet job search.

Current Work:

Part Time Employment for Economic Reasons

The first two chapters of my dissertation revolve around the issue of part time employment for economic reasons. The first chapter is my job market paper, and it delves into the changing behavior of individuals and firms as it relates to the use of hours reductions and involuntary part time employment as a means of weathering periods of slack demand.

I can show that although the level of part time employment for economic reasons has returned to pre-recessionary levels, the ratio of those employed part time for economic reasons to the civilian unemployment rate has increased and remains elevated at a rate far higher than it was

prior to the lead in to the Great Recession. This fact leads one to question the reason for this relative increase, and to consider the impact that this increase has on depressed wage growth and low inflation despite a civilian unemployment rate that is consistently below four percent. I find that those who are employed part time for economic reasons are highly likely to have been employed full time with the same employer and performing the same job description the month prior to their being employed part time for economic reasons. Similarly, those who are employed part time for economic reasons this month are highly likely to transition to full time employment with the same employer and job description the next month.

It can be shown that there has been an increased use of part time employment for economic reasons relative to the unemployment rate, and that these increases are concentrated within specific industries and occupations. The vast majority of the workers who are affected by these increases are in lower skill front line occupations within service and retail industries.

Given these results, I investigate the use of part time employment for economic reasons as a method of reducing costs during periods of slack demand. Using a model of cost minimization, I can show that a firm's decision to use hours reduction as opposed to temporary layoff when they are experiencing slack demand, what is termed the low state in the model, is characterized by bang-bang control. Firms make decisions based on wages of full and part time workers, relative productivity of part time workers, hiring costs, attrition rates, and likelihoods of changing from one state to the other amongst other characteristics.

Using data from the Current Population Survey, I investigate the possible drivers of the relative increase in part time employment for economic reasons. One potential driver is unemployment insurance contribution rates, as it is a proxy for benefit costs borne by employers. However, this does not seem to have a substantial effect. Another potential driver is healthcare costs and the introduction of the Affordable Care Act's employer mandate. While healthcare costs do have some impact on the likelihood of experiencing involuntary part time employment, the timing of the increase does not line up with the relative increase in part time employment for economic reasons. During the time period that the relative increase in part time employment for economic reasons is taking place, there internet is becoming omnipresent in all facets of life, including in the labor market. Using data on internet penetration at the state level, I can show that there is a statistically significant, positive relationship between the level of internet penetration and the likelihood of experiencing part time employment for economic reasons. All of these results are robust to industry, occupation, state and year fixed effects.

In the second chapter of my dissertation, I examine the effects on consumption and consumption smoothing for those who experience a spell or spells of part time employment for economic reasons using data from the Survey of Income and Program Participation. For those experiencing shortened hours, unemployment insurance is severely limited and means tested transfer payments are often not available as these individuals would appear to have assets valued above the threshold required for qualification. However, these individuals are experiencing a great deal of distress due to reduced wages, lost benefits, and a lack of social support.

In this work, I examine the amount of wealth in liquid and illiquid assets that those who are employed part time for economic reasons have at their disposal – effectively asking the question,

how prepared are these individuals and households to whether a spell, or repeated spells of reduced hours and therefore reduced income? This work brings a better understanding of implications of the use of part time employment for economic reasons as the new temporary layoff.

Marginal Attachment

Those who are determined to be marginally attached to the labor force are a very diverse group. Within the Current Population Survey, one can identify as being marginally attached for one of 11 reasons. These individuals are often considered as being, as the name suggests, on the margins of the labor force. However, when examining the transition rates of the subgroups of the marginally attached to employment, these individuals are transitioning to employment at rates similar to or greater than those who are unemployed, save for those who are unemployed for one month or less.

This work delves further into the impacts of these transitions within the labor market of the United States using data from the Current Population Survey to break down the labor market into segments that are much finer than the typical breakdowns used for major labor force statistics. Within these breakdowns, it is clear that there is a good deal of heterogeneity across and within groups.

The marginally attached do transition out of the labor force entirely at rates higher than those who are employed or unemployed, which validates their descriptor along that dimension. However, when it comes to transitioning to employment, they are anything but marginal. All subgroups of the marginally attached transition to employment at rates similar to or higher than those unemployed for durations longer than one month. These results suggest that those who are marginally attached have higher reservation wages than those who are unemployed and that there should be more consideration of subgroups of the labor force beyond the employed and unemployed when examining the health and strength of the labor market.

I employ a Maximum Likelihood technique to estimate reservation, offer, and re-employment wages of the marginally attached and the unemployed to better understand the relationship between the two groups. The marginally attached have generally higher reservation wages than the unemployed, while they have similar re-employment wages. The stark difference between the two groups is the offer wages that they face – the marginally attached have much lower offer wages than the unemployed. This can be accounted for by the heterogeneity of workers who are considered marginally attached, both in the broad categorization and in the subgroups of the marginally attached.

Given the behavior of the United States' economy during and after the Great Recession, understanding the potential sources of slack within the labor market is critical. Since the marginally attached are anything but marginal when it comes to employment probabilities, they should be considered as a source of labor market slack and as a mechanism by which wage growth may be dampened.

Unemployment, Savings, and Consumption

Following up on an article that we published in the Russell Sage Foundation Journal of the Social Sciences, this joint work with William T. Dickens and Robert K. Triest delves into the consumption smoothing behavior undertaken by those who experienced spells of unemployment during the Great Recession.

This builds on previous work where we found that those who experienced spells of unemployment during the Great Recession were largely unprepared to weather the financial shock of income loss as compared to those who experienced unemployment during previous recessions. The paper looks at the potential channels for consumption smoothing that could be tapped by those who suffered job loss and estimated the duration of unemployment that they could weather given their assets.

In this follow up paper we examine what those who experience unemployment actually do to smooth their consumption during a period of job loss utilizing the 1996 through 2008 panels of the Survey of Income and Program Participation. We find that even though most households lack substantial liquid assets that they could tap to weather spells of unemployment, they do not seem to draw down on their more illiquid assets to smooth consumption. We then examine how the behavior of individuals who experience income loss due to unemployment spells relates to plausible optimizing behavior using a simple life-cycle consumption model. Preliminary results suggest a substantial fraction of households who experience income shocks due to job loss decrease consumption more than is optimal. This has profound implications for the welfare impacts of unemployment and suggests that the impacts are far from second order as would be suggested by an optimization model (Lucas 1995).

Mismatch Unemployment

In joint work with Mary A. Burke, Alicia Sasser Modestino, Shahriar Sadighi, and Bledi Taska, we investigate the degree to which there is industrial and occupational mismatch before, during and after the Great Recession using unique demand side data from Burning Glass Technologies. We examine the hypothesis of persistent upskilling within occupation and industry and the relation of this phenomena to the persistent outward shift of the Beveridge curve.

We examine the demand for skills within an occupation over time such that the skills required of a worker prior to the Great Recession are not the same skills required of a worker in a similar position in the recovery period.

Our findings suggest that high-skill occupations were more likely to experience permanent upskilling – that is, they increased their educational requirements during the Great Recession and kept these requirements even as most indicators of labor market distress abated. Leveraging the detailed job posting data from Burning Glass Technologies, we find that the actual skills required of high skill jobs showed the most permanent upskilling within software skills as opposed to baseline (i.e. project management) or specialized skills (i.e. information security), where more temporary upskilling occurred.

Redesigning Unemployment Insurance: Who to Target and How to Trigger

For decades, the United States unemployment insurance system has operated on a series of triggering mechanisms by which the duration of unemployment insurance benefits available to qualifying individuals in a given state are dependent on the contemporaneous state unemployment rate and in some cases deviations from the same month in years prior. These one-size-fits-all mechanisms largely do not account for across state variation in labor market conditions and characteristics, which may have large impacts on the distress felt by unemployed workers.

I will be determining a more precise way to know where extended UI benefits would do the most good for long-term unemployed workers using an alternate specific multinomial probit calculation amongst other tools. It has been shown that UI benefits are important in smoothing consumption (Gruber 1994, Dickens et al. 2017). Knowing what states are most likely to have long-term unemployed workers struggling to reenter the ranks of the employed is critical in finding a better way to implement programs such as the EUC benefits that were made available during the Great Recession and recovery. Once the indicators for states who are about to experience high rates of long-term unemployment have been determined, I will propose a new triggering mechanism by which a program of extended benefits could be based upon. This should increase the efficiency of such programs as opposed to the way that they are currently triggered.

Future Work:

Tracking Opioid Use Through Liquidation of Possessions: Utilization of Web Scraping and Parsing

As individuals struggle with addiction, they may turn to selling their possessions in order to fuel drug habits. Using web scraping tools to analyze public marketplaces including Craigslist and eBay, we will examine sentiment with text analysis methods to better understand how individuals may be liquidating their possessions to generate an income stream. This data will be combined with public data on opioid deaths and overdoses from the Centers for Disease Control and Prevention to understand the behavior of drug users to maintain their habit. This is a project that has a longer time horizon due to the need to scrape large amounts of data over an extended time horizon.

The Impact of the Increase in Involuntary Part Time Employment for the Macroeconomy

The ratio of the labor force employed part time for economic reasons to the unemployed rose above its previous level shortly after the Great Recession and has remained stable since. Further, the vast majority of those employed part time for economic reasons previously worked full time for the same employer and will return to full time with the same employer in the future (Sederberg 2018). This suggests that firms may be using hours reduction as a way to preserve the

job match between employers and employees during periods of low demand instead of laying workers off.

In my job market paper, I propose a simple model that explains why a firm would choose to use either layoff or part time employment for economic reasons to weather a period of slack demand. The model concludes that there is bang-bang control, and that a firm would use either part time employment or layoff, but never a combination of the two. This current work is a first step towards a longer-term goal to nest this simple firm decision model within a New-Keynesian labor market model. Such a model is of great importance if there is, in fact, a new normal in the U.S. labor market that is influenced by the use of part time for economic reasons as a far more common method of dealing with slack business conditions while preserving the employer-employee match than it has been in the past.

Modelling Optimal Firm Behavior in the Age of Internet Job Search

The rise of the internet has changed the way that workers and firms behave. The marginal cost of an additional application with internet job search is far lower than when workers had to search the help wanted newspaper ads or search out signs in the window of a business. For this reason, firms are now inundated with applicants, and this flood can be quite burdensome, leading to relatively high hiring costs for the firm, especially if the firm is small.

Algorithms such as that employed by Google tend to sort search results for job openings by the size of the firm. Google's sorting algorithm bases search results largely on the number of links to and from a website, leading to results for search terms such as "jobs near me" to bring up the largest firms first. This places small firms at a disadvantage.

While it might seem counterintuitive, preliminary results of a genetic algorithm suggest that firms due to the rise of internet job search and matching processes all firms are more likely to miss their employment target, and the effect is larger for small. These preliminary results lead to numerous questions which will need to be analyzed and answered – from optimal firm behavior to the implications on the broader labor market.

Works Cited

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