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¡NO SE PUEDE!: THE DECLINE OF IMMIGRANT UNIONIZATION THROUGH THE GREAT RECESSION OF 2008

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¡NO SE PUEDE!:
**THE DECLINE OF IMMIGRANT UNIONIZATION THROUGH THE GREAT
RECESSION OF 2008**

BY

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BACHELOR OF ARTS, UNIVERSITY OF NEW MEXICO

THESIS

Submitted in Partial Fulfillment of the
Requirements for the Degree of

Master of Arts

SOCIOLOGY

The University of New Mexico
Albuquerque, New Mexico

DECEMBER, 2011

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ABSTRACT

Prior research finds that in recent years immigrants had a higher propensity to unionize than native-born workers. Such research buttresses the hopes of both working class Hispanics, who view unions as a potential avenue to upward mobility, and union supporters who view immigrants as a potential source of union revival. However, there is little research that shows historically marginalized immigrant workers are able to *maintain* newly acquired union jobs, especially during times unfavorable to unionization more generally. Therefore, this paper focuses on immigrant unionization during the Great Recession of 2008 to determine whether the inroads that immigrants have made through organizing are maintained in hostile union environments. Using the Current Population Survey (CPS), I extend Rosenfeld and Kleykamp's (2009) models for Hispanic unionization (which end in 2007) through the recent downturn and beyond. I find that Hispanic immigrants, who hold higher odds of union entry or membership in Rosenfeld and Kleykamp's prerecession analysis, lost union jobs at an increased rate during the Great Recession compared with white native-born workers. These effects for

Hispanic immigrants filter throughout various subcategories and control variables that include years since entry, citizenship status, and nationality. These results are likely *not* the result of unfavorable labor market allocation of immigrants, and to some degree undercut the hopes of those who view immigrants as the key to organized labor's future and organized labor as the key to immigrant prosperity.

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Chapter 1

Introduction

After decades of union decline, research suggests that immigration may foster the revitalization of organized labor in the United States (Milkman 2000, 2006, 2010; Ness 2005; Waldinger et al. 1998). This prognosis comes despite substantial barriers to organizing campaigns, lack of any real gains in national-level unionization rates, and a long history of immigrant exclusion from union membership. Despite a risk averse immigrant population, the large case study literature has shown that foreign-born workers are able to become the driving forces in the labor movement, especially after the famed Justice for Janitors campaign parlayed an open attitude toward immigrants into organizing success in the late 1980s (see, e.g. Milkman 2006; Waldinger et al. 1998; Erikson et al. 2004). However, there is little research that shows historically marginalized immigrant workers are able to *maintain* newly acquired union jobs, especially during times inimical towards unionization more generally. Therefore, this paper focuses on immigrant unionization during the Great Recession of 2008 to determine whether the small quantifiable inroads that immigrants have made through organizing are maintained in hostile union environments.

The relationship between immigrants and unions is important for a multitude of reasons. First, it is important for the union since membership translates into power and allows unions to fight on behalf of their members (Ebbinghaus and Visser 1999). Second, it is important for immigrants who enjoy union safeguards against

discrimination, such as wage standardizing procedures, much as African Americans do. Third, immigrants' ability to obtain union employment speaks to their ability to achieve upward economic mobility and assimilation (Rosenfeld and Kleykamp 2009; Portes and Zhou 1993). The wage premium unionized workers enjoy may lift immigrants out of poverty. Thus, both immigrants and unions can reinforce one another's needs in the U.S. economy where unions give immigrants a ladder for economic ascent and immigrants provide unions a means for revitalization. This relationship, however, confronts several barriers that may hinder revitalization, especially during economic downturns.

Revitalization of the union membership rate by immigrants depends on both increased organizational efforts as well as the maintenance of these numbers once workers have entered union ranks. This is a difficult process since nonunion employment grows at faster rates than union employment and unions find it difficult and costly to stay abreast with the growth differential (Farber and Western 2001). Furthermore, many workers are skeptical of a union's ability to make tangible differences in working conditions, employers oppose organizing efforts, and the process of organizing itself is long, arduous and uncertain (Farber and Western 2001). If immigrants are able to obtain unionized jobs, holding on to these jobs remains a further challenge. Business cycle downturns in the United States likely suppress trade union activity. They also greatly affect marginalized groups, such as Hispanic immigrants, who are more vulnerable to economic downturns.

In a cross-country analysis, Checci and Visser (2005) found that unemployment was inversely related to trade union density and that union densities remained low after workers have entered jobs not covered by unions. In the United States, Western (1993)

also finds this relationship. High unemployment fosters job insecurity, lowers solidarity, and imposes high costs of union membership with few benefits (Western 1993). Immigrants are also more vulnerable to economic downturns than native whites (Chiswick, Cohen, and Zach 1999) and therefore more likely to lose or change their labor market status. Thus, in recent years, characterized for the most part by an economic expansion, immigrants and unions have reinforced and strengthened one another. However, we need to better understand the relationship between these two groups during times of economic recession that is hostile towards immigrants and unionization more generally.

This paper seeks to understand the patterns of immigrant unionization during the Great Recession of 2008 when accelerated structural changes occurred. Using Rosenfeld and Kleykamp's (2009) models for Hispanic unionization, I use the March Current Population Survey (CPS) outgoing rotation groups for various years.¹ Net of demographic, geographic, and structural characteristics, the small gains immigrants have made in unionization since the 1990s have nearly disappeared. The most notable changes among immigrant race/ethnic groups occur with Hispanic immigrants (the largest immigrant population). In 2007, Hispanic immigrants are no less likely to hold a union job than native-born white non-Hispanics, all else equal. However, in 2009, Hispanic immigrants hold over 40 percent lower odds of being a union member. These effects for Hispanic immigrants filter throughout various subcategories and control variables that include years since entry, citizenship status, and nationality.

¹ All CPS datasets downloaded from the National Bureau of Economic Research (www.nber.org/cps). However, I do show models not reported by Rosenfeld and Kleykamp in Tables 3 and 4.

Taking advantage of the longitudinal aspect of the CPS, I match individuals from one year to the next in the Merged Outgoing Rotation Groups (MORG) for various years to determine the odds of leaving a union for the immigrant subcategories between 2004-06 (characterized by an economic boom), 2006-08 (an intermediary period), and 2008-10 (the recession and post-recession). On average, the odds that the race/ethnic immigrant categories leave a union (as opposed to staying in a union) compared to their native white non-Hispanic counterparts increase over the three periods. The Hispanic immigrant subcategories also follow this trend. However, those in the hard hit industries (e.g. construction, manufacturing, etc.) show no difference in leaving a union, which suggests the changing composition of industries in the United States is likely not to blame for the decrease in unionization for these groups. Whereas these results do not speak to specific mechanisms that may contribute to a higher propensity for immigrants to leave union jobs, they do carry implications that immigrants continue to hold secondary positions within the union and continue to be the last hired first fired. Thus, if immigrants are to revitalize the union movement, organized labor must instill mechanisms that fully integrate and help maintain immigrants in their newly acquired jobs.

Chapter 2

Immigrant Propensity to Organize

Scholarly accounts of immigrants' relative propensity to organize suggest a complex relationship between newcomers and unions. Recent research points to predictions that immigrants are receptive towards organizing campaigns and tend to be more pro-union than white non-Hispanics (Milkman 2006; Wells 2000; Waldinger et al. 1998). Attitudinal and group dynamics, combined with innovative organizing tactics (Sherman and Voss 2000; Voss and Sherman 2000), predict that unionization is *more* likely among immigrants than native-born workers (especially in recent years). However, theories of super-exploitation and split-labor markets (Bonacich 1980, 1976) question these claims. A super-exploitation approach suggests that employers exploit immigrants by creating an underclass to fill the unstable, unskilled, low-wage jobs allowing the unionized native workers to fill the stable sectors of the economy. In this view, employers have no incentive to bring immigrants into the unionized core since they can reap the fruits of exploited, often "dark-skinned" labor to "pay off" unionized native workers (Bonacich 1980: 13) In the split-labor market view, native workers block immigrants from joining unions since they view immigrants as undercutting their jobs. At any rate, if super-exploitation or split-labor market theories hold true, unionization is *less* likely among immigrant groups. Whereas the goal of this paper is to adjudicate predictions of immigrants' relative propensity to organize, it says nothing about specific and underlying mechanisms that may lead to these outcomes. However, various theories from previous literature highlight potential mechanisms that would lead one to predict higher or lower unionization among immigrants ex-ante.

The limitations of immigrants' propensities to unionize are well known. Immigrants enter the United States with a short time horizon, may lack English, and work in occupations with high turnover rates characterized by low-wage employment (Piore 1979; Waldinger and Der-Martirosian 2000; Erikson et al. 2004). Immigrants may also compare substandard working conditions from their home country to the relatively better working conditions in the United States (Waldinger and Der-Martirosian 2000; Milkman 2006). Finally, undocumented or illegal immigrants fear deportation by immigration authorities and therefore become more docile and dependent on their employers (Briggs 2001). These characteristics lead immigrants to focus on short-term gains as opposed to long-term investments such as joining a union. It is only after an immigrant has remained in the United States, and therefore had more time to assimilate, that his or her expectations become higher and increase the propensity to unionize (Defreitas 1993; Waldinger and Der-Martirosian 2000; Rosenfeld and Kleykamp 2009). These limitations led both organizers and researchers to believe that immigrants were "unorganizable" (Milkman 2006; 126), especially for Mexican immigrants.

Specifically, Mexican immigrants view themselves as temporary workers who place weak attachment to labor and therefore may hold a secondary or marginal position within a firm and union (Piore 1979). Mexicans hold higher rates of return migration than other immigrant groups and they are also more likely to enter the United States without documentation. They therefore report lower bonds of solidarity and support for their co-nationals (Portes and Rumbaut 2001). Mexicans also hold lower levels of human capital and are more likely to undergo "downward" assimilation (Portes and Zhou 1993) since their visibility makes them subject to "nativist hostility" (Portes and Rumbaut 2001:

277). High return migration rates, low human capital, and open hostility makes Mexicans more difficult to organize than other immigrant groups. However, the case study literature (mostly from California and New York) has shown that immigrants (including legal and undocumented Mexican immigrants) are able to overcome these limitations more readily than the existing scholarship allowed.

Milkman (2006) invokes three reasons immigrants are easier to organize than their native-born counterparts. First, immigrants' tight social networks facilitate stronger solidarity and support during organizing campaigns. Waldinger and Lichter (2003) show that many employers exploit immigrant social networks in order to recruit new workers in Los Angeles. Consequently, immigrants in firms come from the same tight-knit ethnic communities and neighborhoods. Milkman argues that kinship among immigrants in both the workplace and community becomes the foundation for building solidarity among workers. Workers who remain refractory to unionization may be socially ostracized by other workers into taking the risk of unionization as has been historically documented (Farris 1995). Second, immigrants, especially those from Central America, come from countries where they are socialized into unions from an early age and better relate to "cultural idioms of collective organizing, unionism, and class politics than their native-born counterparts" (Milkman 2006: 137). Research shows that immigrants' willingness to take the risks and costs of organizing were formed by experiences of unionization or left-wing political experiences in the sending country (Waldinger et al. 1998; Milkman 2006). Third, immigrants are vulnerable, which fosters unity and a need for union representation. Milkman argues that rather than fear from native hostility, a shared experience of stigmatization fosters greater labor solidarity and organization. These three

reasons, coupled with comprehensive and innovative organizing tactics, such as rank and file organizing and strategic targeting (Sherman and Voss 2000; Voss and Sherman 2000; Bronfenbrenner and Hickey 2004), leads to the following prediction:

Prediction 1: Immigrants' propensity to organize will be higher than native-born white non-Hispanics.

Indeed this prediction is substantiated in previous literature. Milkman (2006) discusses the militancy of immigrant janitors, truck drivers, garment workers, and drywallers in Los Angeles and their willingness to make the sacrifices required to organize. Half the organizing campaigns Milkman analyzed succeeded, which led her to conclude that immigrants may reawaken the labor movement. However, a higher propensity to organize among immigrants is only corroborated through case study literature and does not speak to larger societal labor market structures in the United States as a whole.

Dual and segmented labor market theories (Doeringer and Piore 1971; Piore 1979; Gordon, Edwards, and Reich 1980) suggest that industries are divided into large, profitable firms that meet the stable part of demand and smaller, marginal firms that supply the volatile portion of demand creating two distinct labor market segments. Workers in the capital-intensive primary sector hold stable and often skilled jobs. Workers in the labor-intensive secondary sector hold relatively unstable, unskilled jobs and may be laid off at any time. The large, profitable firms in the core hold the majority workers characterized by higher unionization rates and small firms hold the secondary or

minority workers characterized by low unionization rates. Immigrants tend to gravitate towards secondary sectors since they enter the labor market in less traditional ways, and have less labor force attachment than working class natives. Immigrants also find employment within ethnic enclaves and industries where ethnic firms enjoy competitive advantages (Portes and Sensenbrenner 1993; Waldinger 1995). These firms tend to be small and in peripheral sectors. This makes large sections of the immigrant population difficult to organize because they identify with their bosses and unions tend to focus on organizing large firms.

Why do immigrants find employment within the secondary sector or hold a marginal position within the primary unionized core? By way of recapitulation, Bonacich (1980) suggests two mechanisms: super-exploitation by (often racist) employers who pay foreign-born workers who do the lowest echelon work for a substandard wage and thus have no incentive to bring immigrants into the unionized core; and discrimination by members of the native working class who monopolize the unionized core in the so-called split labor market (Bonacich 1980, 1976). Increased migration creates heterogeneous ethnic groups that compete for similar jobs as the native working class. Ethnic competition across labor markets leads native workers to allow their unions to exclude minority workers – and ethnic workers become available for strikebreaking (Lee 2005; Briggs 2001). A lack of trust between natives and newcomers leads to high-expected transaction costs and low expected gains from commercial and social interactions, which slows assimilation and imposes limitations on economic opportunities (Djajic 2003). Thus, immigrants may feel discriminated against and avoid natives, which leads to less between-group social capital. If immigrants do not feel

solidarity among the native working class, they will be less likely to join a union. At any rate, if super-exploitation or split-labor market theories hold up, we would predict:

Prediction 2: Immigrant's propensity to unionize will be lower than native-born white non-Hispanics.

Much research suggests that immigrants' propensity to unionize is lower for a number of reasons. Historical evidence shows that after the Immigration and Nationalization Act of 1965, and consequent immigrant explosion, unions began their downward spiral. Unionists fear that immigrants impoverish native-born workers in local labor markets (Briggs 2001) and increases status competition among immigrants and low-skilled or semi-skilled native workers (Lee 2005). Employers can easily manipulate immigrants to depress wage levels and displace incumbent workers (Defreitas 1993). Similarly, other empirical research shows that native workers "vote with their feet" once immigrants enter the local labor market (Borjas 2005; 229). Not only does this reduce the labor market wage structure, but recently abandoned union jobs allow employers to hire a nonunion workforce. Unions will only bring immigrants into labor's fold in an effort to protect American workers by reducing any perceived status competition (Haus 1995). As a result, immigrants who do become unionized are forced into a marginal or secondary status (Piore 1979) where the union is not responsive to immigrant population needs.

The mechanisms that predict the immigrant population's relative propensity to unionize may or may not be explained above. A third prediction is that there is no

difference between immigrants and native workers, either because none of the aforementioned mechanisms hold true or because some hold but cancel each other out. Recent research testing these predictions, however, shows mixed results, but none shows effects during a business cycle downturn that may lend insight into the above predictions. Using data from the 1979-88 National Longitudinal Survey of Youth, Defreitas (1993) finds that coverage of unionization is highest for African Americans, followed by Hispanics, non-Hispanic whites, and Asians. He also finds that foreign-born Hispanics have a stronger demand for union coverage than native Hispanics, but immigrants tend to have significantly less opportunity to translate their union preferences into acquiring union jobs. Over this time period, Defreitas concludes that immigrants have lower unionization rates since they are less likely to challenge employers and must therefore enter union job queues.

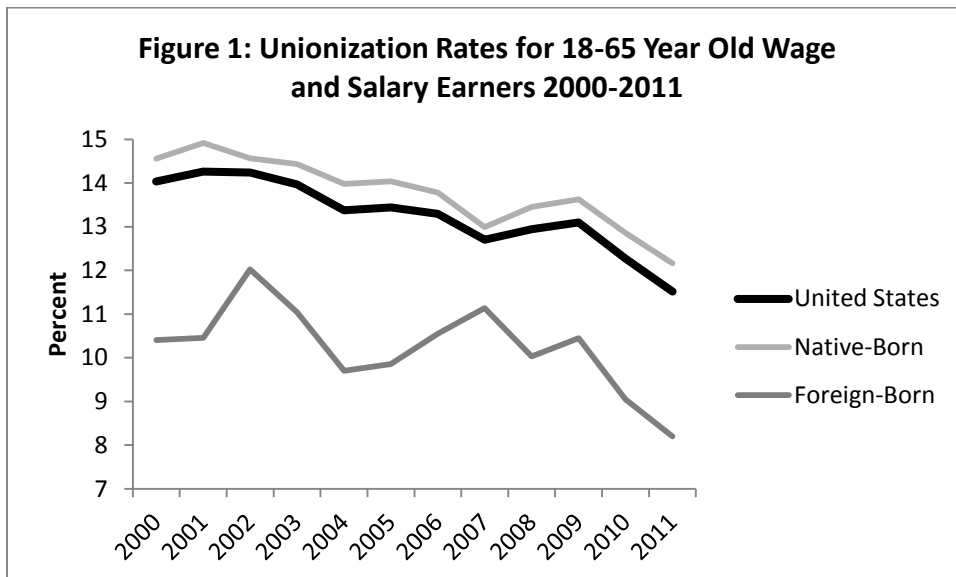
In the mid-1990s, Waldinger and Der-Martirosian (2000) found that Mexicans shared similar unionization rates as white non-Hispanics, but recent Mexican immigrants hold lower odds of unionization, all else equal. However, the mid-1990s was a time of surprisingly strong economic growth where employers may have been less resistant to – if by no means tolerant of – organizing campaigns. In the most complete and comprehensive analysis of immigrant unionization, Rosenfeld and Kleykamp (2009) find differing results in different Hispanic subcategories. Whereas Rosenfeld and Kleykamp do not discount the effect of the business cycle on unionization rates, they append cross-sections between 1983 and 2007 that average these effects. Rosenfeld and Kleykamp find that, controlling for industry, occupation, sector, and firm size, Hispanic immigrants who have lived in the United States over 20 years are neither more nor less likely to hold

a union job than their native-born white, non-Hispanic counterparts. At the same time, however, Rosenfeld and Kleykamp found that noncitizen Hispanics are less likely than native-born whites to be in a union, all else equal. Rosenfeld and Kleykamp also find that Mexican immigrants and non-Mexican Hispanic immigrants hold lower odds of being a union member but these effects disappear as firm size variables are added and when the model is limited to firms with over 1,000 employees. Ultimately, Rosenfeld and Kleykamp conclude “the durable fault lines” of being in a union, “reside along citizenship and time since arrival, not nationality” (927).

Whereas Rosenfeld and Kleykamp show differing odds of being in a union, they also report the odds of joining a union for immigrant subcategories. Using two-year panel datasets, Rosenfeld and Kleykamp find that from one year to another, immigrants, in most subcategories, are more likely to join a union than native-born whites between 1996 and 2007. The exceptions are Mexican immigrants and noncitizen Hispanics who do not show a statistically discernible difference to join a union than a native-born white non-Hispanic. How long an immigrant has lived in the United States also seems to matter when determining the odds of joining a union. These effects continue to be true once the sample is limited to more recent years. This suggests that the revitalization Milkman (2000, 2006, 2010) envisaged may be underway and lends support to the first prediction: that immigrants’ propensity to organize is higher than that of native workers. However, Rosenfeld and Kleykamp’s data end in 2007, just before the recession of 2008. The Great Recession may have transformed the labor market in such a way as to foster lower unionization odds for immigrants. Seniority schemes may also influence workers odds of unionization.

Immigrant Unionization through the Recession

The economic recession that began in December 2007 and ended in June 2009 was by most accounts the worst U.S. downturn since the Great Depression. The seasonally adjusted unemployment rate peaked at just over ten percent in late 2009 and unemployment rates for African Americans, Hispanics, and Hispanic immigrants were even higher (Allegretto and Lynch 2010; Kochaar 2008). Unions failed to capitalize on worker dissatisfaction and continued their downward drift. However, unionization rates, that is, the percent of employed workers who hold a union job, fell at different rates for the foreign-born and native-born. Figure 1 plots the unionization rates between 2000 and 2011 based on tabulations from the March CPS outgoing rotation groups.



Source: Author's calculation based on the March CPS outgoing rotation group for respective year.

Before the recession, the foreign-born gained union jobs in spurts, peaking in 2002. Whereas spurts of union growth are generally followed by waves of labor militancy historically (Western 1994), the gains the foreign-born made in unionization were soon lost. This was especially true once the recession unfolded. The foreign-born

unionization rate fell nearly three percent between 2007 and 2011 compared with just over three-quarters of a percent for the native-born workforce. The unionization rate for workers ages 18-65 in the United States fell over one percent as the recession unfolded. However, since Figure 1 shows unionization rates as a percent of the total workforce, the effect of union decline is not fully representative given the magnitude of the recession. Employment rates fell during the recession, therefore, to see large drops in the total unionization rate suggests that unions failed to shelter workers from the downturn and even more people lost union jobs. This aggregate data suggests that mechanisms are not in place to keep foreign-born workers in union jobs as there are for native-born workers. These effects may either be due to unfavorable labor market allocation where immigrants concentrate in hard-hit industries or seniority schemes where the already unionized native workforce held on to union jobs and immigrants were subject to last hired first fired dynamics by way of mechanisms described above.

Figure 1 seems to support the claim that the business cycle affects unionization negatively in the United States (e.g. Western 1993; Bain and Elsheikh 1976). However, there was also a sharp decrease in unionization just before the recession occurred, albeit to a slightly lesser degree. The decline in unionization between 2006 and 2007 followed by the sharp incline between 2008 and 2009 may be a result of continued downward unionization and conservative anti-union policies in place followed by a perceived “Obama effect.” However, as the recession began to take hold, unionization rates plummeted for the foreign-born. High unemployment impedes unionization where severe downturns increase employer opposition to unions and workers fear exercising their solidarity if there is a strong chance of losing their jobs. However, the foreign-born

unionization rate did not follow this trend during the 2001 dot-com recession. After the September 11th attacks, immigrants faced a wave of discrimination that launched many unionizing campaigns in California (e.g. Milkman 2006) and New York (e.g. Ness 2005) among other places. However, these jobs were soon lost. The second increase in immigrant organizing occurs after Change to Win split from the AFL-CIO. Change to Win emerged with the hopes of increasing organizational attempts by focusing on large-scale organizing campaigns in non-transferable low-wage industries where immigrants tend to concentrate. However, again, these gains declined with the onset of the Great Recession, despite the “Obama effect.” All preceding research shows little about the effect the business cycle has on immigrant unionization, where, as described above, the most comprehensive quantitative analyses either miss important downturns or average out their effects. Therefore, by updating Rosenfeld and Kleykamp’s (2009) models through the recession, we may understand these processes.

Chapter 3

Market Position of Union Membership

Prior research shows that structural and institutional characteristics of the population are particularly important in the determination of union membership (Rosenfeld and Kleykamp 2009; Freeman and Medoff 1984; Hirsch and Addison 1986; Western 1994). Whereas structural characteristics include the organization of production and market conditions that face organized and unorganized firms, these characteristics depend on the institutional forces of geographical regions. However, worker characteristics also influence who may demand unionization (Waldinger and Der-Martinsian 2000; Ashenfelter 1972; Freeman and Medoff 1984). Marginalized groups enjoy wage standardizing and grievance procedures of unions that reduce discrimination. Furthermore, minorities who remain stigmatized, may foster greater solidarity and demand unionization at higher rates than native white non-Hispanics (Milkman 2006). However, if immigrants and minorities undergo upward assimilation (Portes and Zhou 1993), these groups may abandon organizing campaigns as their white non-Hispanic counterparts do. Thus, both worker *and* workplace characteristics help determine union status.

Rosenfeld and Kleykamp (2009) rely on a positional theory of unionization where industrial, occupational, geographical and firm size pattern union membership. Market conditions, such as a firm's sensitivity to wages, may influence opposition to unions. In capital-intensive industries where labor costs are a small fraction of the total production costs, employers may be more tolerant of organized labor (Freeman and Medoff 1984; Western 1994). Firms with a lower wage bill and greater concentration of workers

should be more prone to unionization than small firms with large wage bills. Demand for union representation is also greater in more dangerous work environments where unions formalize work and safety rules (Hirsch and Addison 1986). This may explain, in part, why industries such as construction and manufacturing tend to share higher unionization rates than office and managerial professions.

Occupational differences also influence workers' propensities to unionize. White-collar workers enjoy higher pay and greater job autonomy with more security and may identify with management (Freeman and Medoff 1984). Blue-collar workers are inexpensive to organize since they are less likely to identify with management and more likely to hold preferences that facilitate union representation (Freeman and Medoff 1984). However, the substitutability of low-wage labor will decrease workers' bargaining power (Lee 2005). Employer location also helps identify unionization. State-level differences and, more specifically, right-to-work states influence the level of unionization (Farber 1984; Hirsch and Addison 1986). Right-to-work states increase employer power to thwart any unionization attempts and therefore these states experience lower unionization rates in the private sector. Other geographical areas, such as urban areas, also determine unionization rates. Urban areas allow lower organizing costs that lead to higher unionization among metropolitan areas (Rosenfeld and Kleykamp 2009). If more workers are spatially close, then the costs required for unionization of large populations are lower.

Demographic characteristics may also influence who demands union membership. Freeman and Medoff (1984) explain that dissatisfied workers, and in particular minorities, are more likely to demand union membership since they face discrimination.

African Americans in particular show higher probabilities of being a union member than white non-Hispanics (Blanchflower 2007) and have found wage standardizing and grievance procedures in unionized establishments to significantly reduce discrimination (Asenfelter 1972). Research also suggests that age, education, and marital status potentially affects the probabilities of unionization. Some scholars find a higher likelihood of union membership among older workers (Waldinger and Der-Martinsian 2000), whereas others find a higher likelihood for younger workers (Freeman and Medoff 1984). Blanchflower (2007) find that the probability of being a union member follows an inverted U-shaped pattern in age. Educational status may also influence unionization since it proxies skill level. Blue-collar workers with lower skills are likely to benefit more from union representation than white-collar workers with higher skill levels. Therefore, we can analyze union membership as:

$$\textit{Probability of Union Membership} = f(D, G, O, I)$$

Where D represents demographic characteristics, G represents geographical location, O represents occupational characteristics, and I represents industrial characteristics. Thus, if immigrants enter areas hostile to unionization, they will be less likely to hold a union job regardless of foreign-born status.

Chapter 4

Data and Methods

Data come from the March Current Population Survey (CPS) outgoing rotation groups and Merged Outgoing Rotation Groups (MORG) for various years. The main purpose of the CPS is to collect data on employment and unemployment in the United States. The CPS also collects information on demographic and other politically and economically relevant questions of the time. The CPS has asked union membership and coverage questions each month in the outgoing rotation groups since January 1983 (Hirsch and Macpherson 2003). Workers count as union members if they respond yes to: *On this job, is _____ a member of a labor union or of an employee association similar to a union?* The CPS also provides information on individuals based on where they were born, how long they have lived in the U.S., Hispanic status, and whether they are citizens of the United States. Therefore, the CPS is well suited to elucidating the patterns of union membership among America's immigrant workforce.²

Data are limited to non self-employed wage and salary workers ages 18-65.³ First, using a logistic regression to determine the odds of being in a union, cross-sections from the 2007 and 2009 March CPS outgoing rotation groups are taken. The first model predicts the odds of being in a union in 2007 and the second model predicts the odds of being in a union in 2009. Differences between the two years are examined. The logistic

² The CPS, however, does not provide information on an immigrant's documented status. An important concept throughout the case study literature suggests that, despite fear of deportation, illegal or undocumented immigrants likely join organizing campaigns. This was certainly true during the Justice for Janitors campaign. It is possible that undocumented or illegal immigrants are in the sample, but remains impossible to identify them as such.

³ By keeping the positive selection of only those who remain employed, those who became more likely to lose a job during the recession are implicitly controlled for.

regressions control for occupation, industry, and sector as well as state fixed effects. Demographic characteristics are also controlled for such as race/ethnicity, gender, educational attainment, and marital status. Potential experience and potential experience squared are controlled for and calculated as age minus years of education. Recent CPS years do not report years of education so educational attainment status approximates this number. Models that include immigrant and nonimmigrant racial/ethnic subcategories are then analyzed to help determine how changes in the economic climate have affected these groups. Since many believe that immigrants, and specifically Hispanic immigrants (the largest immigrant group), may form the new base of unions (Milkman 2006), the odds that Hispanic immigrant subcategories hold a union job are reported that include years since entry, citizenship, and nationality, which may hinder or promote union status.

A second analysis takes advantage of the longitudinal aspect of the CPS. Using a matching scheme of the MORG, I report the odds immigrant racial/ethnic groups leave a union from one year to the next.⁴⁵ The matching process creates two-year panel data where changes in union status can be calculated. A multinomial logistic regression is performed where four unordered categorical outcomes may occur from year one to year two. These include: joining a union (0,1); leaving a union (1,0); staying in a union (1,1); and never being in a union (0,0). As the odds of leaving a union are reported, the baseline category is staying in a union, which allows for easy and logical interpretation. Since the MORG does not include firm size, the labor position variables, as defined by Rosenfeld and Kleykamp, are controlled for and defined in the first two columns in Table

⁴ See Appendix A for a more detailed explanation about this process.

⁵ Since research suggests that trade union activity is likely suppressed in times of high unemployment (e.g. Western 1993; Bain and Eshleish 1972), the odds of joining a union (as opposed to never being in a union) are not reported. The number of people joining unions in the MORG matched datasets significantly decreases over the recession period and the number of people leaving a union increases.

5. However, as opposed to state fixed effects, region is used due to computational difficulties, following Rosenfeld and Kleykamp.⁶ A first model includes only the labor market position variables. A second model includes dummies for occupation change and industry change and a third model limits the sample size to only those who maintain a stable occupation and industry. The multinomial regressions are run for the years 2004-06 (boom years), 2006-08 (an intermediary period), and 2008-10 (the recession and post-recession).⁷⁸

⁶ There are four regional dummies: Northeast, North Central, South, and West. Northeast is the reference.

⁷ All models for the multinomial regressions include dummies for year in addition to the labor market position variables.

⁸ To address the complex design of the CPS, all models use a robust variance estimation approach through specifying survey weights in Stata following Rosenfeld and Kleykamp. The public use CPS releases neither the PSU nor the USU variables and, therefore, standard errors in the CPS must be accounted for. A robust standard error does not explicitly control for all the design features of the CPS, but is common throughout the research literature.

Chapter 5

Results

Table 1 presents descriptive statistics for the covariates in 2007 and 2009 from the March outgoing rotation groups. The first column of each year presents the United States means and percentages; the second column provides means and percentages for union workers. The total number of 18 to 65 year old workers decreased nearly four percent between 2007 and 2009. The percent share of workers with some college experience or higher than a bachelor's degree increased between these two years. However, with the exception of the percentage male, other demographic characteristics did not dramatically change. The percent of males in the total U.S. workforce, on the other hand, decreased one percentage point. This may be a consequence of men being concentrated in industries and occupations affected by the recession. For instance, the percent of all workers in the production, craft, and repair occupations decreased 1.7 percentage points and the service occupations increased between the two years. Construction and manufacturing seem to be the biggest industry losers between 2007 and 2009.

As shown, union workers in 2007 differ from union workers in 2009 in many different dimensions. Most notably, the percent of union members who are immigrants significantly decreases between 2007 and 2009. In 2007, the percent of union members who are immigrants is 13.6 percent. In 2009, this number falls to 12.2 percent. The percent of union members who are white non-Hispanic increases nearly three percentage points and the percent who are Hispanic falls 3.3 percentage points. The other race/ethnicity category, which mostly consists of Asians, increased their percent share of

union members by over one percentage point. The percent share of union workers who have attained some college experience or a bachelors degree or higher also increased between the two years. These demographic changes among union members suggest that minority workers were more likely to lose union employment. However, high concentrations of minority workers in industries most affected by the recession may account for the changing demographics of union workers as a whole.

Table 1: 18-65 Year Old Workers. Descriptive Statistics for the United States 2007, 2009 (Percent)

	2007		2009	
	United States	Union Members Only	United States	Union Members Only
Union Member	12.7	-	13.1	-
Immigrant	15.5	13.6	15.4	12.2
Age	39.653	43.133	40.143	43.436
Male	51.8	57.1	50.8	55.7
Married	56.4	63.5	56.4	65.5
Race/Ethnicity				
White	67.3	67.5	67.5	70.3
Black	11.5	12.9	11.3	12.1
Hispanic	14.8	14.3	14.8	11.0
Other	6.4	5.3	6.4	6.6
Education				
<HS	10.2	7.1	8.6	4.9
High School	29.5	30.4	28.4	26.2
Some College	19.7	17.7	20.6	19.5
B.A or Higher	40.6	44.8	42.3	49.4
Private Sector	83.6	53.9	83.5	50.6
Occupation				
Professional/ Manage.	35.4	36.3	35.8	39.5
Farm/forestry/fishery	.6	.2	.6	0
Production/craft/repair	23.3	33.1	21.6	30.5
Service occupations	40.7	30.4	42.0	30.0

Table 1 Continued

	2007		2009	
	United States	Union Members Only	United States	Union Members Only
<u>Industry</u>				
Ag./Forestry/Fishery	1.5	.4	1.3	.1
Mining	.5	.4	.6	.5
Construction	7.5	8.9	6.0	8.0
Manu. Durables	7.7	7.1	6.4	5.3
Manu. Non Dura.	4.5	5.5	4.1	4.6
Transportation	4.7	10.9	4.7	11.8
Communications	2.1	2.6	1.8	2.0
Utilities	1.2	2.5	1.3	2.6
Wholesale Trade	3.1	1.3	3.0	1.1
Retail Trade	16.4	5.9	17.4	4.4
F.I.R.E.	6.6	.9	7.0	2.0
Business Repair	5.4	1.7	5.6	.9
Personal Services	3.6	1.6	3.9	1.2
Rec./entertain	1.8	1.0	1.8	1.4
Other Services	27.5	36.7	29.4	37.9
Public Administration	5.3	12.4	5.4	15.9
<u>Firm</u>				
<25	24.3	7.2	24.1	7.8
26-99	13.2	7.9	13.4	7.9
100-499	14.0	15.8	14.0	15.2
500-999	6.0	7.7	6.0	8.3
1,000+	42.5	61.3	42.5	60.8
Sample N	13,692	1,759	13,082	1,755
Population Size	123,477,305	15,692,423	118,876,117	15,622,601

Source: Author's calculations based on the March CPS outgoing rotation group. Weights used.

Modeling Union Membership through the Recession

As noted above, Rosenfeld and Kleykamp (2009) find support for the idea that industry, occupation, sector and firm size pattern unionization throughout the country. Table 2 presents the odds of union membership in both 2007 and 2009 following both Rosenfeld and Kleykamp's market position and firm size models. The 2007 cross-section replicates the last year of their study and supports their analysis (see their Table

2).⁹ In 2007, Hispanics are neither more nor less likely to hold a union job than white non-Hispanics, following Rosenfeld and Kleykamp, in both the market position and firm size models; however, in 2009, while failing to reach conventional significance levels, Hispanics show 22.4 percent lower odds of holding union jobs than their white non-Hispanic counterparts in the market position model. Once firm size is included, Hispanics and white non-Hispanics continue to show no statistically discernible differences in the likelihood of holding a union job.¹⁰ Hispanic ethnicity includes immigrants as well as non-immigrants, however, and obscures heterogeneous origins among both groups.

Despite the fall in the total percent of union members, production, craft, and repair occupations continue to be significantly more likely to hold a union job than their white collar counterparts in both 2007 and 2009. When controlling for firm size variables, those who work in service occupations are significantly more likely to hold a union job than white-collar occupations in 2007, however, no more likely to hold a union job in 2009, all else equal. Similarly, those in the construction industry continue to hold higher odds of being a union member compared with their agricultural counterparts in both years. Occupation, industry, sector, and firm size continue to determine the odds of unionization in both economically good and bad times corroborating previous research (e.g. Rosenfeld and Kleykamp 2009; Hirsch and Addison 1986; Freeman and Medoff 1984; Western 1994).

⁹ The notable differences, namely marital status showing non-significance, may be because Rosenfeld and Kleykamp had a larger sample spread over several years.

¹⁰ Table 2 also shows that African Americans hold higher odds of being union members in 2007 than white non-Hispanics, but in 2009, show no statistically discernible effect.

Table 2. Odds Ratios from Logistic Regression Predicting Unionization. 18-65 Year Old Wage and Salary Workers

	2007		2009	
	Market Position	Firm Size	Market Position	Firm Size
Race (White Ref.)				
Black	1.303 (2.18)*	1.262 (1.91)	1.159 (1.22)	1.090 (.71)
Hispanic	1.059 (.50)	1.081 (.66)	.776 (-1.94)	.807 (-1.60)
Other Race	.727 (-1.90)	.723 (-1.90)	.994 (-.05)	.980 (-.14)
Male	1.242 (2.84)*	1.235 (2.74)*	1.152 (1.82)	1.143 (1.70)
Married	1.094 (1.21)	1.109 (1.36)	1.140 (1.74)	1.150 (1.84)
Age (exper)	1.041 (2.92)*	1.037 (2.56)*	1.068 (4.57)*	1.063 (4.20)*
Age sq (exper squared)	.999 (-1.88)	.999 (-1.65)	.999 (-3.68)*	.999 (-3.37)*
Education (<HS ref)				
HS	1.541 (2.89)*	1.379 (2.09)*	1.294 (1.50)	1.154 (.83)
Some College	1.460 (2.34)*	1.264 (1.42)	1.593 (2.58)*	1.366 (1.71)
B.A. +	1.593 (2.92)*	1.325 (1.71)	1.654 (2.84)*	1.383 (1.80)
Private Sector	.118 (-22.38)*	.153 (-18.97)*	.110 (-23.27)*	.140 (-19.95)*
Occupation (Professional/managerial reference)				
Farm/forestry/fishery	1.072 (.08)	1.529 (.52)	.099 (-2.08)*	.130 (-1.83)
Production/craft/ Repair	2.634 (8.20)*	2.812 (8.66)*	2.676 (8.49)*	2.864 (8.86)*
Service occupations	1.149 (1.51)	1.200 (1.93)	1.036 (.40)	1.098 (1.04)

Table 2 Continued

	2007		2009	
	Market Position	Firm Size	Market Position	Firm Size
Industry (Ag ref.)				
Mining	2.653 (1.50)	2.233 (1.20)	5.089 (2.17)*	3.888 (1.75)
Construction	2.428 (1.72)	3.113 (2.03)*	4.991 (2.39)*	5.811 (2.54)*
Manu. Durables	2.217 (1.54)	1.728 (.98)	3.380 (1.81)	2.598 (1.38)
Manu. Non-Dura	3.412 (2.36)*	2.517 (1.66)	5.239 (2.45)*	4.027 (2.00)*
Transportation	5.181 (3.16)*	4.127 (2.54)*	10.883 (3.55)*	8.904 (3.16)*
Communications	4.248 (2.66)*	2.898 (1.82)	6.867 (2.77)*	4.863 (2.22)*
Utilities	3.271 (2.07)*	2.471 (1.50)	6.517 (2.64)*	4.875 (2.18)*
Wholesale Trade	1.222 (.34)	1.051 (.08)	1.673 (.71)	1.479 (.53)
Retail Trade	1.461 (.73)	1.207 (.34)	1.719 (.80)	1.404 (.49)
FIRE	.483 (-1.23)	.375 (-1.57)	1.333 (.41)	1.063 (.09)
Business Repair	.910 (-.17)	.839 (-.30)	.777 (-.35)	.767 (-.36)
Personal Services	1.575 (.81)	1.671 (.85)	1.704 (.75)	1.727 (.75)
Rec./entertain	1.648 (.84)	1.510 (.65)	4.187 (1.97)*	3.516 (1.69)
Professional Ser.	2.649 (1.91)	2.314 (1.53)	4.211 (2.17)*	3.740 (1.93)
Public Admin.	1.709 (1.03)	1.504 (.73)	3.568 (1.89)	3.160 (1.67)
Unclassified	.603 (-.64)	.526 (-.76)	4.238 (1.78)	3.341 (1.43)

Table 2 Continued

	2007		2009	
	Market Position	Firm Size	Market Position	Firm Size
Firm Size (<25 ref)				
25-99		1.829 (3.81)*		1.536 (2.84)*
100-499		3.417 (8.42)*		2.851 (7.60)*
500-999		4.415 (8.57)*		3.700 (8.09)*
1,000+		4.553 (11.24)*		3.584 (10.21)*
State/Metro Effect	Yes	Yes	Yes	Yes
N	13,692	13,692	13,082	13,082
McFadden's R^2	.2258	.2513	.2649	.2840
BIC	8,870	8,680	8,501	8,336

* $p < .05$

Note: z -statistic in parentheses. Data come from the March-CPS outgoing rotation group for appropriate year. Models weighted with the appropriate CPS weights. BICs calculated without weights. Rosenfeld and Kleykamp (2009) do not use fulltime in their model citing that “many unions push to convert part-time positions to full-time during contract negotiations” (p. 935). However, they do use a full-time indicator as a robustness check and find “substantively similar results” (p. 935). I confirm their finding. Rosenfeld and Kleykamp (2009) also control for both public administration (labeled government in their tables) and private sector, variables that should be inversely related. The correlation between these two variables in 2007 and 2009 is $-.54$ (rounded to the nearest hundredth). According to the Census Bureau, those who remain in the public administration industry “oversee governmental programs and activities that are not performed by private establishments” (www.census.gov/naics). The Census Bureau further specifies, “government establishments engaged in the production of private-sector-like goods and services should be classified in the same industry as private-sector establishments engaged in similar activities” (www.census.gov/naics). Therefore, all individuals in the public administration industry remain in the public sector, but those in other industries may be in either the private sector or public sector. As a robustness check, first, all models are run without the private sector dummy. Substantively similar results for the race/ethnic groups occur, but the model fit is greatly reduced. A second robustness check collapses the industry variables into major industry codes defined by Waldinger and Der-Martirosian (2000). One dummy includes all public sector/public administration workers and five other private industry sectors. Again, substantively similar results for the race/ethnic categories emerge, however, the other race category flirts with different levels of significance.

Modeling the Odds of Unionization for Immigrant Subcategories

Table 3 presents the odds ratios for immigrant subcategories in the 2007 and 2009 cross-sections. The first model includes immigrant and nonimmigrant race/ethnic categories with controls identical to Table 2. Rosenfeld and Kleykamp (2009) do not report the equivalent findings; therefore, a comparison to their models is impossible.

Nonetheless, I find that in 2007, *ceteris paribus*, Hispanic immigrants reveal no statistically discernible disadvantages vis-à-vis white non-Hispanics in terms of union membership. This is an important finding since unions have historically avoided this group. Thus, this finding supports the notion of the “organizability” (Milkman 2006) of immigrants and their potential to help revitalize the union movement. In 2009, however, Hispanic immigrants hold 46.7 percent lower odds of union membership in the market position model and 41.4 percent lower odds once firm size variables are added. Given that these effects do not filter through all immigrant race/ethnic categories, they suggest that mechanisms that predict a lower propensity for Hispanic immigrants to organize are in place, whatever those mechanisms may be.

The second model of Table 3 includes the years since entry for Hispanic immigrants. Previous research notes that over time, immigrants assimilate and foster preferences towards unionization (Waldinger and Der-Martirosian 2000; Rosenfeld and Kleykamp 2009; Piore 1979). The years since entry model supports these accounts. In 2007, a Hispanic immigrant who has lived in the United States over 20 years holds over 70 percent higher odds to be a union member than a native white non-Hispanic. This result is different from that of Rosenfeld and Kleykamp (2009) and Waldinger and Der-Martirosian (2000) who show that this group is no more likely to hold a union job controlling for relevant variables. However, immigrant organization is a recent occurrence, and the Rosenfeld and Kleykamp (2009) data may have averaged out any statistical effect. This effect may not have emerged in the 1990s when Waldinger and Der-Martirosian (2000) performed their study since a reversal of union restrictiveness did not officially begin until 2000. But immigrants who have remained in the United States a

long time and white non-Hispanics betray no statistically discernible differences in 2009, and the odds ratio for experienced Hispanics actually falls below one. Moreover, recent Hispanic immigrants held lower odds of unionization than white non-Hispanics in both 2007 and 2009. Finally, the gap between newcomers and white non-Hispanics was larger at the bottom of the recession.

The third model in Table 3 addresses the subcategory of Hispanic immigrant citizenship status. Hispanic immigrant citizens hold over 60 percent higher odds of unionization than their native white counterparts in 2007. This effect is different from that of Rosenfeld and Kleykamp, who show that controlling for firm size these citizens hold 20 percent higher odds of unionization than white non-Hispanics. In 2007, meanwhile, Hispanic immigrant non-citizens show no difference in the odds of holding a union job when compared to native-born whites. This also differs from Rosenfeld and Kleykamp's results, which show Hispanic that immigrant non-citizens have 40 percent lower odds of holding a union job, all else equal. As in previous models, these differences between the 2007 cross-section and Rosenfeld and Kleykamp's analysis may be due to their larger sample, since their data are spread over twenty-four years that may average out the statistical effect of one year. The differences between 2007 and 2009 show similar patterns: the statistically significant advantage Hispanic immigrant citizens enjoy in 2007 falls to non-significance in 2009; and Hispanic immigrant non-citizens fall to over 50 percent lower odds of unionization than native white non-Hispanics in 2009 (from no statistically discernible effect in 2007). Thus, Hispanic immigrants who became citizens, and therefore have undergone some form of assimilation, were still disadvantaged in holding onto union jobs.

The last model in Table 3 includes Hispanic nationality and immigrant subcategories. Unionists or employers may view immigrants differently depending on where they originate. Furthermore, differential socialization at the point of origin may influence the propensity to unionize in the US. In Rosenfeld and Kleykamp's analysis, Mexican immigrants and non-Mexican Hispanic immigrants hold lower odds of unionization than native white non-Hispanics. While my 2007 analysis reveals no significant difference in their propensity to organize, by 2009 they evince lower odds of union membership than native-born whites net of other factors. Furthermore, the gap between these two groups and white non-Hispanics in 2009 is greater than that of RK's pre-recession analysis. By contrast, Hispanic-origin and Mexican-origin natives show no difference in union membership compared to native white non-Hispanics in both the boom year and recession year. The above results suggest that there are mechanisms in play that push Hispanic immigrants to leave union jobs at higher rates than native white non-Hispanics and native-born Hispanics during the Great Recession. These effects may be due to the recession affecting unionized sectors more than nonunionized sectors, unfavorable labor market allocation, seniority schemes, or a host of other mechanisms. The following analysis sheds light on potential reasons for the decrease in odds of unionization for immigrants.

Table 3. Immigrant Subcategories. Odds Ratios from Logistic Regressions Predicting Unionization. 18-65 Year Old Wage and Salary Earners.

	2007		2009	
	Market Position	Firm Size	Market Position	Firm Size
<u>Immigrant Race</u>				
White	.709	.749	.975	.956
Immigrant	(-1.54)	(-1.34)	(-.12)	(-.21)
Black Non-immigrant	1.392 (2.60)*	1.356 (2.38)*	1.141 (1.02)	1.077 (.57)
Black immigrant	.715 (-.91)	.679 (-1.06)	1.239 (.72)	1.141 (.46)
Hispanic non-immigrant	1.077 (.48)	1.077 (.46)	1.015 (.09)	1.005 (.03)
Hispanic immigrant	.989 (-.07)	1.039 (.25)	.533 (-3.28)*	.586 (-2.71)*
Other non-immigrant	.851 (-.68)	.817 (-.82)	1.232 (1.08)	1.194 (.89)
Other immigrant	.627 (-2.15)*	.640 (-2.03)*	.828 (-1.01)	.828 (-.99)
N	13,692	13,692	13,082	13,082
McFadden's R^2	.2269	.2523	.2664	.2850
BIC	8,901	8,711	8,529	8,367
<u>Years Entry</u>				
Nonimmigrant	1.073	1.072	1.015	1.006
Hispanic	(.46)	(.43)	(.10)	(.04)
Hispanic 20+	1.702 (2.60)*	1.762 (2.79)*	.637 (-1.58)	.663 (-1.41)
Hispanic 10-20	.963 (-.15)	1.046 (.17)	.673 (-1.45)	.741 (-1.05)
Hispanic 5-10	.514 (-2.14)*	.516 (-2.07)*	.310 (-2.57)*	.362 (-2.21)*
Hispanic 0-5	.393 (-1.96)	.438 (-1.59)	.169 (-2.30)*	.222 (-2.00)*
N	13,692	13,692	13,082	13,082
McFadden's R^2	.2292	.2544	.2672	.2856
BIC	8,911	8,724	8,551	8,390

Table 3 Continued

	2007		2009	
	Market Position	Firm Size	Market Position	Firm Size
<u>Citizenship</u>				
Hispanic nonimmigrant	1.071 (.45)	1.072 (.43)	1.012 (.08)	1.002 (.02)
Hispanic Immigrant Citizen	1.639 (2.28)*	1.685 (2.43)*	.725 (-1.19)	.743 (-1.05)
Hispanic Immigrant Non-Citizen	.745 (-1.60)	.791 (-1.24)	.413 (-3.60)*	.479 (-2.96)*
N	13,692	13,692	13,082	13,082
McFadden's R^2	.2281	.2533	.2668	.2854
BIC	8,905	8,716	8,535	8,374
<u>Nationality</u>				
Hispanic Nonimmigrant, non-Mexican	1.143 (.59)	1.142 (.54)	1.359 (1.43)	1.366 (1.43)
Hispanic Immigrant, non-Mexican	1.106 (.50)	1.172 (.77)	.478 (-2.58)*	.525 (-2.22)*
Mexican Nonimmigrant	1.027 (.14)	1.028 (.14)	.830 (-.93)	.814 (-1.00)
Mexican Immigrant	.901 (-.55)	.940 (-.32)	.567 (-2.47)*	.623 (-1.99)*
N	13,692	13,692	13,082	13,082
McFadden's R^2	.2270	.2524	.2669	.2855
BIC	8,919	8,730	8,542	8,379

* $p < .05$ two-tailed

Note: z -statistic in parentheses. Data come from the March-CPS outgoing rotation group for appropriate year. All models include variables from Table 1. The reference category for all models is nonimmigrant whites. Models weighted with the appropriate CPS weights. BICs calculated without weights.

Modeling the Odds of Leaving a Union

The CPS-Matched MORG dataset allows one to estimate the odds of losing a job during the recession and the odds of leaving a union in a one-year period. First, as noted above, the recession may have affected unionized sectors more than nonunionized sectors. Immigrants tend to concentrate in the construction industry and other low-wage occupations and industries that were especially hard-hit during the recession. If these industries became less union dense as the recession unfolded, this would have a major impact on the likelihood that an immigrant would hold a union job. A model determining the odds of “job loss” shows, controlling for industry and other labor market position variables, the odds that union members lost a job in a one year period were significantly lower than a nonunion worker as the recession unfolded.¹¹ Thus, union workers were less rather than more likely to lose a job than their nonunion counterparts.

Second, by focusing on union leavers, we can better understand why the effects described above may have occurred and simultaneously shed light on whether the changing industrial composition of the American workforce may be to blame for the decline in unionization of Hispanic immigrants (and Hispanic immigrant subcategories).¹² Table 4 presents the odds of leaving a union (as opposed to staying in a union) for the race/ethnic categories and Hispanic immigrant subcategories. The model showing the race/ethnic immigrant and nonimmigrant categories also reports selected industries to show whether working in these industries significantly predicts union leaving.

¹¹ See Appendix B for results.

¹² As noted above, the odds of joining a union are not reported since the economic downturn greatly diminished the number of people who report this status. However, the odds of joining a union (as opposed to never being in a union) increased or remained similar over the three time periods for many of the race/ethnicity categories. Whereas the preferences of these groups for union jobs may have increased, the number of people joining unions significantly decreased over time and the number of people leaving a union increases. Thus, union joiners are not able to replace the elevated odds of union leavers during the recession.

The first three columns of Table 4 controls for the labor market position variables defined in Table 5. The next three columns add a dummy variable for change in occupation and a dummy variable for change in industry to the market position variables. The last three columns limit the sample to only those who remained in a stable occupation and industry. The odds that both immigrants and nonimmigrant minorities leave a union (as opposed to staying in a union) increase compared to native white non-Hispanics between the prerecession and recession/post recession years.¹³ These trends continue when change in occupation and industry dummies are included. The CPS does not allow analysis for individuals who remained employed with the same employer. However, those who stayed in the same occupation and industry (with the exception of the other race categories) also showed increased odds of leaving a union compared with their white counterparts. The gap between minority immigrant groups and native white non-Hispanics widens in the intermediary period with few exceptions. In the recession/post recession years, the gap continues to widen or in some cases tightens. This may be likely a reflection of the sharp decline and incline shown in Figure 1 that reflects political preferences and/or the contraction and expansion of the US economy or regional labor markets.

The logistic regressions from Table 3 suggest that Hispanic immigrants were most likely to lose union status. Hispanic immigrants are more likely to leave a union than native white non-Hispanics in all models in all periods. In fact, in the labor market position model, Hispanic immigrants hold 79.9 percent higher odds of leaving a union (as

¹³ The exception being the nonimmigrant other race category.

opposed to staying in a union) between 2004-06 and 94.2 percent higher odds of leaving a union between 2008-10 than their native white non-Hispanic counterparts.

The first set of results also reports selected industries in order to determine whether elevated odds of leaving a union are due to the changing composition of industries in the United States. There are no significant differences between the shown industries and the baseline agriculture, forestry, and fishery industry in leaving a union (as opposed to staying in a union) in the three periods. However, the sign changes from holding lower (but not significant) odds of leaving to higher (but not significant) odds of leaving between the three periods. This suggests that holding a job in these industries did not significantly predict whether someone lost a union job and the changing composition does not account for the lower odds of holding a union job for Hispanic immigrants.

Table 4 also reports the odds of leaving a union in a one year period for Hispanic immigrant subcategories. Whereas seniority schemes may predict that recent Hispanic immigrants will become increasingly more likely to leave a union since unions have only recently targeted these groups (Rudy 2004), it is possible that immigrants who have remained in the U.S. for a long period should also be no less likely to leave a union than a native white non-Hispanic. Unfortunately, the CPS does not report how long an individual has remained on the job, so this analysis is impossible. But the odds that Hispanic immigrants leave a union increase as the recession unfolds regardless of how many years they have remained in the United States compared with their native white non-Hispanic counterparts. Prior research suggests that as immigrants assimilate, they will hold and foster preferences for union representation at similar or greater rates than their native white non-Hispanic counterparts (e.g. Waldinger and Der-Martirosian 2000;

Defreitas 1993). The logistic regressions from Table 3 show that Hispanic immigrants who have remained in the United States for over 20 years were more likely to hold a union job in 2007 and neither less nor more likely to hold a union job in a statistical sense than native whites in 2009. However, the gap between this group and native white non-Hispanics in the odds of leaving a union increased from 52.3 percent higher odds in 2004-06 to 71.9 percent higher odds in 2008-10 compared with native white non-Hispanics.

The same results appear with Hispanic immigrants who have become citizens of the United States. Hispanic immigrants who are citizens and Hispanic immigrant non-citizens show increasing odds of leaving a union compared to native white non-Hispanics following the patterns above. These effects continue to manifest themselves in models that include a change in occupation and industry as well as the model that limits the sample to those who remain in the same occupation and industry. With the exception of Mexican-origin natives, the nationality models also show similar results. The race/ethnic immigrant and nonimmigrant model show increasing odds of leaving a union for Hispanic-origin natives compared to their native white counterparts. Table 4 provides insight that the recession engendered mechanisms contrary to those of Rosenfeld and Kleykamp's joining models, whatever those mechanisms may be. These results tend to contradict previous research that portrays immigrants as a source of union revival (e.g. Milkman 2006) and/or show higher odds of immigrant union affiliation of membership prior to the Great Recession (Rosenfeld and Kleykamp 2009).

Table 4: Odds Ratios for Multinomial Regression for Leaving a Union (As Opposed to Staying in a Union) in a One Year Period

	Labor Market Position			Includes Change in Occupation and Industry			Limited to Stable Occupation and Industry		
	2004-2006	2006-2008	2008-2010	2004-2006	2006-2008	2008-2010	2004-2006	2006-2008	2008-2010
White Immigrant	1.694 (4.07)*	1.630 (3.43)*	2.270 (6.17)*	1.684 (3.99)*	1.638 (3.43)*	2.207 (5.95)*	1.537 (2.69)*	1.769 (3.47)*	2.325 (5.38)*
African American	1.218 (2.58)*	1.485 (5.22)*	1.470 (4.92)*	1.172 (2.06)*	1.411 (4.50)*	1.427 (4.52)*	1.138 (1.40)	1.383 (3.50)*	1.472 (4.24)*
Black Immigrant	1.954 (3.66)*	1.300 (1.56)	1.902 (3.70)*	1.869 (3.40)*	1.215 (1.13)	1.821 (3.47)*	1.726 (2.35)*	1.612 (2.37)*	1.773 (2.84)*
Hispanic Nonimmigrant	1.290 (2.71)*	1.514 (4.63)*	1.350 (3.30)*	1.280 (2.61)*	1.475 (4.31)*	1.331 (3.13)*	1.200 (1.59)	1.530 (3.94)*	1.305 (2.44)*
Hispanic Immigrant	1.799 (5.27)*	1.725 (4.98)*	1.942 (6.11)*	1.798 (5.25)*	1.695 (4.79)*	1.923 (5.99)*	1.774 (4.23)*	1.774 (4.25)*	2.127 (5.84)*
Other Nonimmigrant	1.249 (3.66)*	1.331 (4.42)*	1.008 (.06)	1.207 (1.49)	1.282 (1.98)*	.990 (-.08)	1.166 (.99)	1.376 (2.06)*	.958 (-.27)
Other Immigrant	1.249 (1.76)	1.752 (4.42)*	1.828 (5.22)*	1.974 (5.41)*	1.715 (4.23)*	1.827 (5.18)*	2.192 (5.31)*	1.708 (3.54)*	2.001 (5.14)*
<u>Selected Industries</u>									
Construction	.566 (-1.51)	.576 (-1.35)	1.182 (.43)	.624 (-1.22)	.615 (-1.18)	1.264 (.59)	.415 (-1.68)	.437 (-1.47)	.483 (-1.47)
Manufacturing Durables	.630 (-1.23)	.555 (-1.44)	1.257 (.59)	.681 (-1.00)	.593 (-1.27)	1.365 (.79)	.404 (-1.74)	.415 (-1.56)	.583 (-1.09)
Manufacturing Non-Durables	.659 (-1.10)	.603 (-1.22)	1.358 (.78)	.677 (-1.01)	.604 (-1.21)	1.436 (.91)	.448 (-1.53)	.501 (-1.22)	.584 (-1.08)
Transportation	.541 (-1.64)	.537 (-1.52)	1.197 (.47)	.612 (-1.28)	.592 (-1.28)	1.368 (.80)	.383 (-1.86)	.439 (-1.46)	.615 (-1.00)
Public Administration	.763 (-.72)	.679 (-.95)	1.760 (1.46)	.811 (-.55)	.707 (-.85)	1.856 (1.58)	.576 (-1.07)	.545 (-1.08)	.882 (-.26)
N	101,776	102,621	100,573	101,776	102,621	101,573	68,921	68,692	69,984
McFadden R^2	.1672	.1660	.1789	.1751	.1738	.1849	.1869	.1880	.1971
BIC	115,091	114,510	110,432	114,116	113,524	109,690	81,320	80,134	79,579

Table 4 Continued

	Labor Market Position			Includes Change in Occupation and Industry			Limited to Stable Occupation and Industry		
	2004-2006	2006-2008	2008-2010	2004-2006	2006-2008	2008-2010	2004-2006	2006-2008	2008-2010
<u>Year Entry</u>									
Nonimmigrant	1.274	1.501	1.347	1.265	1.462	1.328	1.183	1.515	1.300
Hispanic	(2.58)*	(4.54)*	(3.58)*	(2.49)*	(4.21)*	(3.11)*	(1.46)	(3.84)*	(2.40)*
Hispanic 20+	1.523	1.362	1.719	1.515	1.349	1.707	1.559	1.447	1.768
	(2.85)*	(2.11)*	(4.03)*	(2.80)*	(2.01)*	(3.95)*	(2.52)*	(1.99)*	(3.50)*
Hispanic 10-20	1.451	2.018	2.113	1.448	1.970	2.118	1.169	2.163	3.065
	(1.90)	(3.41)*	(3.62)*	(1.89)	(3.29)*	(3.59)*	(.60)	(3.11)*	(4.66)*
Hispanic 5-10	2.235	2.413	2.991	2.323	2.373	2.770	2.882	1.794	2.096
	(2.48)*	(3.59)*	(3.54)*	(2.58)*	(3.52)*	(3.36)*	(2.83)*	(1.93)	(1.90)
Hispanic 0-5	4.023	1.991	4.676	4.029	1.841	4.742	2.869	2.013	4.159
	(4.04)*	(1.92)	(3.52)*	(4.09)*	(1.70)	(3.57)*	(2.65)*	(1.66)	(2.74)*
N	101,776	102,621	100,573	101,776	102,621	100,573	68,921	68,692	69,984
McFadden R^2	.1678	.1665	.1797	.1757	.1742	.1857	.1875	.1882	.1979
BIC	115,141	114,563	110,455	114,166	113,578	109,714	81,380	80,213	79,646

Table 4 Continued

	Labor Market Position			Includes Change in Occupation and Industry			Limited to Stable Occupation and Industry		
	2004-2006	2006-2008	2008-2010	2004-2006	2006-2008	2008-2010	2004-2006	2006-2008	2008-2010
Citizenship									
Hispanic Nonimmigrant	1.292 (2.72)*	1.516 (4.65)*	1.351 (3.31)*	1.282 (2.64)*	1.478 (4.33)*	1.333 (3.15)*	1.204 (1.62)	1.533 (3.95)*	1.306 (2.44)*
Hispanic Immigrant Citizen	1.501 (2.84)*	1.312 (1.89)	1.639 (3.72)*	1.447 (2.59)*	1.277 (1.69)	1.605 (3.52)*	1.345 (1.68)	1.351 (1.69)	1.827 (3.79)*
Hispanic Immigrant Non-Citizen	2.277 (5.36)*	2.481 (6.06)*	2.656 (6.03)*	2.340 (5.49)*	2.452 (5.94)*	2.645 (6.00)*	2.448 (4.80)*	2.493 (4.94)*	2.803 (5.39)*
N	101,776	102,621	100,573	101,776	102,621	100,573	68,921	68,692	69,984
McFadden R^2	.1677	.1667	.1795	.1756	.1745	.1855	.1874	.1886	.1978
BIC	115,085	114,488	110,395	114,108	113,501	109,652	81,323	80,130	79,580

Table 4 Continued

	Labor Market Position			Includes Change in Occupation and Industry			Limited to Stable Occupation and Industry		
	2004-2006	2006-2008	2008-2010	2004-2006	2006-2008	2008-2010	2004-2006	2006-2008	2008-2010
Nationality									
Hispanic Nonimmigrant, Non-Mexican	1.081 (.55)	1.554 (3.40)*	1.433 (2.71)	1.038 (.27)	1.501 (3.10)*	1.398 (2.52)*	1.242 (1.33)	1.551 (2.76)*	1.344 (1.85)
Hispanic Immigrant, Non-Mexican	1.807 (4.06)*	1.784 (3.76)*	1.832 (4.10)*	1.709 (3.67)*	1.727 (3.51)*	1.789 (3.90)*	1.692 (2.87)*	1.768 (2.95)*	1.975 (3.78)*
Mexican Nonimmigrant	1.457 (3.13)*	1.487 (3.45)*	1.297 (2.24)*	1.477 (3.26)*	1.459 (3.26)*	1.289 (2.18)*	1.179 (1.10)	1.521 (3.05)*	1.285 (1.80)
Mexican Immigrant	1.799 (3.99)*	1.675 (3.72)*	2.042 (5.03)*	1.870 (4.25)*	1.664 (3.66)*	2.043 (5.02)*	1.844 (3.48)*	1.773 (3.37)*	2.259 (4.85)*
N	101,776	102,621	100,573	101,776	102,621	100,573	68,921	68,692	69,984
McFadden R^2	.1675	.1662	.1790	.1754	.1739	.1850	.1872	.1882	.1972
BIC	115,145	114,564	110,488	114,168	113,578	109,745	81,374	80,186	79,656

* $p < .05$ two-tailed

Note: z -statistic in parentheses. Data come from the Matched-CPS MORG for appropriate years. All models include variables from Table 1 except firm size. The models also include four region dummies (as opposed to state fixed effects) and control for year (with the earliest years are the reference). The reference category for all models is nonimmigrant whites. Models weighted with the appropriate CPS weights. The BIC is calculated without weights.

Table 5: Covariates Used in Constructing the Odds of Unionization (Table 2)

Demographic	Labor Market Position	Firm Size
	All Demographics Plus:	All Labor Market Plus:
Race:	Occupation:	Firm Size
White (reference)	Prof./managerial (ref)	<25 (reference)
Black	Production/craft/repair	25-99
Hispanic	Service occupations	100-499
Asian	Farm/forestry/fishery	500-999
Other		1,000+
	<u>Industry:</u>	
Sex	Ag./ forestry/fishery (ref.)	
Female (reference)	Mining, construction,	
Male	Manu. Durables, Manu.	
	Non-durables, transportation,	
	communications,	
	Utilities/sanitary services,	
	wholesale trade, retail trade,	
	FIRE, business repair svcs.,	
Age (experience)	Rec/entertainment svcs,	
Age^2 (experience squared)	professional svcs., public	
	administration, unclassified	
Marital Status		
Not married (reference)	Metro Status:	
Married	In metro area (ref.)	
	In rest of SMSA	
Education	Not in SMSA	
<HS (reference)	Missing	
HS graduate		
Some college	State Fixed Effects	
BA or higher	Maine (Reference)	
	Dummies for 49 states plus D.C.	

Chapter 6

Discussion and Conclusion

The above results show that Hispanic immigrants were likely to lose a union job at an increased rate during the Great Recession compared with white native-born workers. This has disconcerting impacts throughout the economy. As noted above, unions provide immigrants one potential economic ladder from low-paying peripheral jobs (Portes and Zhou 1993; Rosenfeld and Kleykamp 2009). The increased odds of leaving a union may threaten immigrants economically and therefore induce downward assimilation (Portes and Zhou 1993). Thus, immigrants will likely continue to live in poverty. Increased poverty among minorities often leads to a deterioration of socioeconomic characteristics of neighborhoods, such as a decrease in the quality of schools and higher crime rates (Massey 1990). Poverty may then propagate to the second and third generations, which then segregates minorities from the general population.

These results also speak to – but do not examine – rising inequality in the United States as a whole. Unions institutionalize a moral economy and norms of fair pay for *all* workers in the labor force (Western and Rosenfeld 2011). In fact, as much as a fifth to a third of the growth in wage inequality between 1973 and 2007 is attributed to de-unionization (Western and Rosenfeld 2011). By way of contrast, mass immigration has contributed less than five percent of rising inequality between 1980 and 2000 (Card 2009). Figure 1 shows that unionization rates began to fall an increased rate after 2007 for both immigrant and non-immigrant groups. Without organizations such as unions that institutionalize wage standardizing procedures, inequality will only rise. This is especially true as macroeconomic forces aid in union decline. Therefore, the

revitalization of organized labor is more important in the wake of the Great Recession than ever before. Specifically, mechanisms that would lead to lower immigrant propensity to unionize may have been triggered during the recession, but remains beyond the focus of this analysis.

The mechanisms that would lead to immigrants' lower propensity for unionization remain unknown and beyond the ability of this analysis. The CPS does not allow the determination of how long a person has held a union job, a key characteristic that may influence who loses a union job. Thus, the increased odds of leaving a union may be a result of seniority schemes or a host of other factors that may explain these results. If immigrants change their labor market status during economic recessions, they may be less likely to demand unionization in their new jobs. It is only when workers who are stable and employed over time that they may choose to change from exit to voice (Farris 1995) and place demands on employers. Theoretical perspectives of dualism, split-labor markets, and superexploitation predict that immigrants would lose union jobs at an increased rate than that of native-born workers since they will become more likely to change employment in recessions. Employers may see an immigrant workforce as cheap labor, dispensable in business cycle declines, holding on to or paying off the native workforce. However, native workers may seek to limit workers they view as undercutting their jobs and force immigrant workers out of unions during the Great Recession. Immigrants within the secondary sector – who supply the unstable portion of demand – may also become more likely to be laid off in business cycle downturns. If unions organize immigrant groups in an effort to protect American workers (Haus 1995),

the protection of American workers may lead immigrants to leave unions voluntarily or involuntarily once exogenous forces create hostile environments towards unions.

As discussed above, there is strong support that time since migration and citizenship status helps immigrants define higher preferences towards unionization (Waldinger and Der-Martirosian 2000; Rosenfeld and Kleykamp 2009; Defreitas 1993). Despite potential assimilation, it appears that there remains an immigrant penalty once unionization decreases. The “durable fault lines” (Rosenfeld and Kleykamp 2009) of immigrant unionization (years since entry and citizenship) do not appear to have sheltered immigrant groups from losing a union job. Immigrants who have remained in the United States for a longer period and those with citizenship status have managed to gain union jobs more rapidly than native whites before the recession, have shown significantly higher odds of leaving a union than white non-Hispanics as the recession unfolds. Rosenfeld and Kleykamp argue that their analysis may provide evidence for linear economic assimilation (Alba and Nee 2003) for Hispanics and Hispanic immigrants. However, immigrants require organizational vehicles to offer advancement in the labor force. In contrast, my own analysis may buttress claims of segmented assimilation (Portes and Zhou 1993) where, absent economic ladders, immigrants will undergo downward assimilation. If immigrants lose union jobs, they may rely on their social networks to gain employment within nonunion ethnic enclaves. However, jobs within enclaves show lower earnings than in competitive secondary sectors and provide little or no economic mobility (Alba and Nee 1997).

Whatever the specific mechanisms that lead to these results, immigrants’ propensity to unionize are lower than their native white counterparts. Whereas it remains

possible that immigrants are easy to organize as Milkman (2006) envisages, social and economic counter-tendencies may overwhelm any solidarity immigrant groups hold. It may therefore become necessary for immigrants to enter job queues for union entry that are increasingly long (Abowd and Farber 1982) as the number of union jobs diminishes.

The above results suggest that immigrants lost union jobs during the recession. They also confirm previous research that industry, occupation, sector and firm size continue to pattern unionization both in times of economic expansion and contractions (e.g. Rosenfeld and Kleykamp 2009; Hirsch and Addison 1984; Freeman and Medoff 1986; Western 1994). The cross-section from 2007, along with Rosenfeld and Kleykamp's (2009) previous analysis, suggests that immigrant unionization may have made some quantifiable gains (at least in some immigrant subcategories), but as the recession unfolded, these jobs were soon lost. The logistic regressions show that African Americans and Hispanic immigrants (and the subcategories) lost union jobs. The matched dataset shows that this was likely due to increased odds of leaving a union. The matched dataset also shows that the changing composition of industries does not explain the results from the logistic regression between 2007 and 2009.

Therefore, while the national-level unions have increasingly become sympathetic to immigrants over time, they have difficulty reconciling the interests of their many diverse members and constituencies; let alone of fighting macroeconomic trends that threaten their already limited gains. Unions must persuade their members and supporters to accept a new social contract that would build solidarity between the native working class and immigrants. However, cultural, language differences, and possible racial prejudices may reduce solidarity between these two groups. Immigrant upward

assimilation may then become necessary for the native working class to identify with these groups. However, as discussed above, immigrants require organizational vehicles – such as unions - in order to undergo upward assimilation and immigrants are losing these ladders in the wake of the Great Recession. Until then, “immigration is unlikely to add a silver lining to the dark clouds facing American labor” (Waldinger and Der-Martisian 2000: 74). The revitalization that could and should happen depends on unions learning to become more responsive and understanding towards immigrants and their direct needs.

Appendix A: Matching Process

The CPS is a household survey of approximately 60,000 households and asks politically and economically relevant questions of the time. It is the primary source of unemployment and employment measures in the United States. The CPS interviews households on a rotational basis where, in any given month, eight different rotation groups are surveyed. Each household in the CPS is given four monthly interviews, leaves the survey for eight months, and then given four more monthly interviews before permanently leaving the sample. The rotation groups differ in the month they first enter the survey. Thus, a household entering the CPS in January of year one (month in survey = 1) will leave the survey in April (month in survey = 4) and then enter the CPS in January of the next year (month in survey = 5). Rotations four and eight are considered the “outgoing rotation groups” and include more information on households and individuals than other rotation groups. The Merged Outgoing Rotation Group (MORG) combines all the outgoing rotation groups throughout the year. Thus, an individual appears once in a file year, but may reappear in the following year. The matching dataset, therefore, follows individuals from one year to another and excludes those without data in the two years.

Since the CPS is a survey of households and not individuals, occupants of a household may leave (for whatever reason), and will *not* be followed by the survey. Rather, the new occupants of the household will be interviewed. Therefore, in order to create a two-year panel dataset where changes in union employment can be observed, a matching algorithm is adapted described in Madrian and Lefgren (1999) and modified to match the Rosenfeld and Kleykamp (2009) Stata do-files. The Madrain and Lefgren

(1999) matching algorithm continues to work “reasonably well” (Feng 2008; 242) in the years following the SCHIP expansion of the CPS in 2002 in terms of reducing attrition bias and maintaining valid match rates. Merge rates, however, do remain low.

Nonetheless, there is little evidence of attrition bias in matched CPS files, (see Neumark and Kawaguchi 2001). In fact, Neumark and Kawaguchi (2001) argue, “that in many applications the advantages of union matched CPS panels to obtain longitudinal estimates are likely to far outweigh the disadvantages from attrition biases” (31). The following paragraph describes the procedure used to match individuals.

After single-year MORG data files were recoded and limited to 18-65 year old workers, the matching process was initiated where observations in rotation four in year T was matched to the rotation eight in year $T+1$. This was performed by first creating separate data files for rotation 4 and another for rotation 8. The two files were then merged using state, household id, household number, and line number from the CPS. This creates a naïve match. However, as described above, individuals may move, die, or refuse to answer questions. Thus, individuals in the household are matched using sex, race, and age as identifiers between the two rotations in time one and time two. If sex and race are different between the two time-periods, the individuals are dropped. If the person’s age has increased by more than two years, the individual is dropped as well (if an individual’s birthday falls near the interview date, their age may vary between 0 to 2 years). After individuals who do not meet the criteria are dropped, the valid merge rate is created (see Table A1). The years of interest were then appended into a single file.

Table A1: Naïve and Valid Merge Rates from the MORG Matched Data.

Year	Naïve Merge Rate	Valid Merge Rate
2004	65.68	61.29
2005	72.68	63.44
2006	72.59	63.09
2007	73.66	64.33
2008	72.58	63.99
2009	73.59	64.80

Appendix B: Table Predicting Job Loss

Table B1: Odds Ratios Predicting that an Employed Worker Loses a Job in a One-Year Period

	2004-06	2006-08	2008-10
Union	.995 (-.06)	.804 (-2.56)*	.882 (-2.12)*
Race (White Ref.)			
Black	1.622 (5.93)*	1.600 (6.25)*	1.737 (9.71)*
Hispanic	1.083 (.97)	.908 (-1.27)	1.063 (1.10)
Other Race	1.199 (1.70)	1.056 (.54)	1.108 (1.38)
Male	.941 (-1.02)	1.059 (1.04)	1.078 (1.81)
Married	.625 (-8.63)*	.594 (-10.35)*	.650 (-11.47)*
Age (exper)	.989 (-1.25)	.965 (-4.35)*	.982 (-2.93)*
Age sq (exper squared)	1.000 (.45)	1.000 (3.41)*	1.000 (2.37)*
Education (<HS ref)			
HS	.876 (-1.57)	.744 (-3.92)*	.800 (-3.74)*
Some College	.671 (-4.35)*	.607 (-6.20)*	.736 (-4.79)*
B.A. +	.616 (-4.51)*	.505 (-6.98)*	.580 (-7.19)*
Private Sector	1.578 (3.81)*	1.416 (3.34)*	1.809 (7.21)*
Occupation (Professional/managerial reference)			
Farm/forestry/fishery	1.658 (1.94)	1.421 (1.24)	.882 (-.57)
Production/craft/ Repair	1.469 (4.14)*	1.350 (3.60)*	1.338 (4.95)*
Service occupations	1.311 (3.45)*	1.247 (3.09)*	1.149 (2.63)*

Table B1 Continued

	2004-06	2006-08	2008-10
Industry (Ag ref.)			
Mining	.098 (-3.32)*	.877 (-.36)	1.014 (.06)
Construction	.923 (-.36)	1.610 (2.10)*	1.379 (2.03)*
Manu. Durables	.707 (-1.58)	1.116 (.48)	.958 (-.27)
Manu. Non-Dura	.663 (-1.79)	.964 (-.15)	.653 (-2.54)*
Transportation	.385 (-3.75)*	.908 (-.39)	.603 (-2.96)*
Communications	.864 (-.56)	.955 (-.17)	.785 (-1.26)
Utilities	.391 (-2.74)*	.532 (-1.82)	.391 (-3.97)*
Wholesale Trade	.619 (-1.90)	.813 (-.82)	.620 (-2.68)*
Retail Trade	.895 (-.53)	1.040 (.18)	.627 (-3.04)*
FIRE	.569 (-2.43)*	1.037 (.15)	.565 (-3.43)*
Business Repair	.939 (-.28)	1.184 (.73)	.873 (-.83)
Personal Services	.751 (-1.23)	1.003 (.01)	.612 (-2.82)*
Rec./entertain	1.019 (.07)	1.025 (.09)	.603 (-2.62)*
Professional Ser.	.532 (-2.93)*	.728 (-1.42)	.477 (-4.73)*
Public Admin.	.510 (-2.39)*	.434 (-2.84)*	.287 (-5.70)*
Unclassified	.494 (-1.65)	1.078 (.20)	.530 (-1.99)*
Region/metro/year	Yes	Yes	Yes

* $p < .05$

Note: z-statistic in parentheses. Data come from the CPS-MORG Matching for appropriate years. Models weighted with the appropriate CPS weights.

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