Forecasting Success: Achieving U.S. Weather Readiness for the Long Term

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Lee E. Ohanian
Professor of Economics, and Director
Ettinger Family Program in Macroeconomic Research
UCLA
405 Hilgard Avenue
Los Angeles, CA 90024

Senior Fellow
Hoover Institution, Stanford University
434 Galvez Avenue
Stanford, CA 94305

Chairman Rockefeller, Senator Begich, and Committee members, thank you for the opportunity to testify today on the key importance of the National Weather Service (hereafter NWS). My testimony primarily consists of recommendations to improve the future efficiency and performance of the National Weather Service, with a focus on labor relations between the NWS and the union representing the employees of the NWS, the National Weather Service Employees Organization (hereafter NWSEO).

My focus on labor relations between the NWS and the NWSEO follows from the fact that labor costs are typically the largest component of production costs in organizations, and that there is evidence that unions have raised costs in some government agencies and in some private organizations. Moreover, technological change has had a large impact on weather forecasting and analysis, and may continue to impact the weather forecasting industry in the future. This in turn may lead to changes in manpower requirements and/or the cost-effective organization of the NWS. The productivity of future NWS operations will therefore depend on an ongoing cooperative relationship between NWSEO and the NWS as technology and the demands of the users of weather forecasts continue to evolve over time.

I will begin by summarizing the economic impact of unions, including distinctions between trends in private sector unionization and public sector unionization. I will discuss how unions can raise costs by raising compensation levels and by introducing work rules that reduce productivity and that may also interfere with organizational changes and the adoption of new technologies. I will then apply this analysis to developing a set of recommendations for the NWS in order to facilitate and foster a cooperative and productive relationship with the NWSEO.

A union is a form of monopoly. It is a single seller of labor services to an organization. This monopoly position provides unions with the opportunity to drive up the cost of labor by raising the compensation for union members above the compensation that would prevail in a competitive marketplace and by defining work rules for its members that protect jobs, which in turn increase the number of workers and thereby reduces labor productivity. In terms of their impact on costs and productivity, there has been considerable research on the effects of collective bargaining on wages, and consensus estimates are that unions raise wages by about 10 to 15 percent above the rate that would prevail in their absence (see Card (1996)). In terms of patterns over time, research by Blanchflower and Bryson (2002) indicate that

union wage premia have declined in the private sector over time, but not in the public sector. There is comparatively less research on the impact of work rules on economic activity, but the cost of work rules may be much larger than the cost of higher wages. Several detailed studies indicate that union work rules, particularly in industries that face little competition, can substantially reduce efficiency and output by as much as 50 percent. In some instances, work rules impede the adoption of new technologies by requiring a minimum number of workers in production and/or by restricting how a particular job is done (see Holmes and Schmitz (2010) for a summary, and Schmitz (2005) for a detailed study). In summary, adopting inefficient work rules and raising compensation above levels that would prevail in a competitive marketplace harms consumers and/or taxpayers by raising costs and impeding the efficient allocation of society's scarce resources. My analysis with Harold Cole of the Great Depression (Cole and Ohanian, 2004) indicates that the large reduction in competition that occurred during the 1930s, including the rapid rise in unionization, prolonged the Depression for a number of years.

Union membership grew substantially following the National Labor Relations Act of 1935, and continued to expand through the early 1950s, as unions provided its members with important benefits at that time. This reflected the fact that there was much less competition in the economy for workers, which meant that some workers may not have received compensation commensurate with their productivity. Moreover, unions were considered to be important for protecting worker safety and health at that time. But both labor market conditions and worker health and safety conditions have changed considerably over time. Today, there is considerable competition for workers, which means that compensation is commensurate with worker productivity, and health and safety are covered by national, state, and local laws.

These changes have made unions less attractive to workers than in the past, and this has resulted in a large decline in private sector unionization. Figure 1 shows the share of unionized employment from 1929 to the present. Union representation in the private sector began declining in the 1960s and this decline accelerated in the 1970s. Private sector unionization rates have declined from about 37 percent in 1952 to only about 6 percent today. Declining private sector unionization reflects a number of factors, including the facts that the economy is much more competitive than it was 60 years ago, that health and safety are protected through legislation, and that many of today's workers prefer to negotiate their own opportunities rather than relinquish their individual bargaining rights to collective bargaining. It is also important to recognize that declining unionization is not simply the result of the country's declining industrial base, as is often suggested (see for example Bluestone, 1990). In particular, declining unionization characterizes most of the private sector economy, including industry. As Hirsch (2008) shows, unionization rates in manufacturing and construction, two of the most heavily unionized sectors, fell from about 40 percent in the early 1970s to less than 15 percent in 2006.

Increased competition is considered by many economists to be a major factor in understanding lower private sector unionization. Competition for workers drives wages up to the level of worker productivity, which means that worker compensation is commensurate with the value of their production. And competition in product markets drives output prices down to the level that is consistent with the market return on capital. This means that in today's globally competitive world economy, union attempts to raise compensation or implement inefficient work rules would result in organizations becoming uncompetitive, which in turn would lead to substantial job loss. This is an important reason why unions have become a much smaller force in the private sector workplace and why there is relatively little new unionization among private industry. My research shows that increasing competition is a key factor in understanding why the most heavily unionized sectors of our economy, such as the auto, steel, and rubber industries, have declined so much since the 1970s. (Alder, Lagakos, Ohanian, 2013).

Today's increasingly competitive global and domestic economy indicates that there are important limitations on what unions can plausibly achieve for their members compared to what they were able to achieve in the past. Thus, workers have little to gain from union representation when unions cannot deliver better pay and working conditions than what workers can achieve on their own.

There are important lessons from the decline of private sector unionization rates and the decline of industries that were represented by traditional unions. Specifically, the historical characteristics of labor relations in which unions and management were at odds, and unions raised costs through compensation above market rates and through inefficient work rules, must change for both workers and other organization stakeholders to succeed. Successful labor relations today require unions and management to work productively for the common goal of enhancing productivity and providing a high level of service and value to the users of its products and services. An example of this is Southwest Airlines. Nearly 90 percent of Southwest's workers are in unions. Several of these unions, including Southwest's pilot union, are independent organizations, in contrast to the unions that represent pilots at other airlines. Southwest has a history of highly cooperative labor relations in which both management and labor focus on the same objectives of efficiency, customer satisfaction, and competing vigorously with other carriers. While many other air carriers have had a history of conflicted labor relations, Southwest's cooperative labor relations have been a key factor in its success, and they have allowed Southwest to compete vigorously with much larger carriers and gain market share.

I now turn to public sector unionization. Unionization trends among public sector workers are very different than the private sector trends discussed above. Figure 1 also shows unionization rates for federal, state, and local government workers since the early 1980s. The unionization rates of these public sector workers have been stable over time, at around 43 percent for local government workers, about 33 percent for state workers, and about 17 percent for federal workers.

These very different trends reflect large differences in the impact of competition private versus public sector employees. As noted above, the very large decline in unionization in the private sector has been significantly impacted by increased competition, which has reduced the ability of unions to raise wages or change work rules. But much less competition exists in the public sector, and this means that unions have more opportunities to raise compensation above competitive levels and protect jobs, which makes union membership more attractive. In the private sector, significantly higher labor costs would result in large employment losses as firms that attempt to pass on these higher costs would lose market share to competitors. But in the public sector, this type of competition often does not exist, so higher costs of above-market compensation or inefficient work rules can be passed on to taxpayers.

My research (Ohanian, 2010) indicates that public sector unions have been able to thrive because of limited competition. This also suggests that unions have increased compensation at a faster rate than the competitive levels noted above. In particular, compensation at all levels of government has increased by about 40 percent since 1980, compared to about a 20 percent increase in the private sector. The average public sector compensation level is now $70,000, compared to an average of $60,000 in the private sector. Moreover, job security in the public sector has traditionally been higher in the public sector, and public sector pensions are often superior to private sector pensions. Higher job security, and more attractive pensions, which is a form of deferred compensation, suggests that government workers may be willing to work at their current positions for less than private sector pay. My findings indicate that accounting for just the higher rate of public sector job security suggests that public sector employment could be competitive even with compensation that are about 10 percent lower than the private sector. The fact that average public sector worker compensation is higher than in the private sector, without taking into account pension benefits, suggests that public sector compensation levels may be above competitive levels.

There may be considerable savings from federal, state and local government reforms that systematically develop competitive compensation analyses and that also review work rule practices. Specifically, government organizations should review how they benchmark compensation, including pensions, to private sector comparison. Ideally, this would also include some allowance for the likelihood that public sector employment offers greater job security than private sector employment.

This discussion about unions also has implications for public sector union performance. These unions understandably operate in the interest of their members who pay their unions to represent them to gain the highest compensation and job security. But public sector unions must understand that taxpayers are becoming increasingly unwilling to pay for public sector services in which compensation is above market and in which there are inefficient work rules. As in the private sector, successful public sector labor relations will be ones in which unions and management broadly agree on goals of enhancing efficiency, productivity and customer service and perceived value to insure that their workers are reasonably and fairly compensated and that they have reasonable job security.

This discussion also has implications for assessing the future relations between the NWSEO and the NWS. One issue is regarding compensation. Data from the Bureau of Labor Statistics (BLS) shows that among meteorologists, public sector meteorologists receive the highest wages and salaries. In 2012, federal government employed meteorologists received about $97,000 per year, compared to a median salary of about $86,000 for private sector meteorologists. While these data do not necessarily imply that compensation levels are above market for federal government meteorologists, these data do raise this issue as a possibility. I recommend that a review process for compensation should be updated on a regular basis, particularly since the private weather industry is growing so quickly, and this compensation review process should ideally take into account differences in pension/retirement benefits between government and the private sector.

Another recommendation regarding labor relations, and promoting the goal of high productivity, is reviewing how NWSEO may impact work rules and the organization of manpower. It is particularly important for the NWS and the NWSEO to follow current successful labor relations practices and to try to achieve a common set of goals that enhance productivity and customer satisfaction. This is noteworthy for two reasons. One is that rapid technological change has significantly impacted weather forecasting. As in other industries that adopt and adapt new technologies, the organization of the industry, including the deployment of labor and the location of production, will change.

Another reason is that private weather forecasting has expanded considerably in recent years, and debates regarding what forecasting services are to be provided by the NWS and other government agencies, and what services are to be provided by private organizations, will likely continue. While it is difficult to predict how the provision of weather forecasting services will evolve between public and private providers, it is possible that some services should be shifted from the NWS to the private sector, and this will also lead to organization changes and changes in manpower deployment and utilization.

The NWSEO will play a role in both of these processes. In the past, the NWS has negotiated with the NWSEO when an organizational change will impact working conditions, unless the union has been involved prior to the decision. Ideally, the NWSEO and the NWS will share common goals of enhancing productivity and customer value, and the NWSEO would be involved in the planning stages of changes in the utilization of manpower to help achieve these common goals, instead of negotiating between the NWS and the NWSEO after the organization change.

I recommend that developing joint goals and working cooperatively be given high priority, and that this should be reviewed on an ongoing basis in the future. One reason to prioritize this issue is because some of the NWSEO achievements that are listed on www.nwseo.org may be inconsistent with the goal of achieving common objectives with the NWS. Specifically, I list below the NWSEO's main five recent achievements, all of which either involve raising compensation or expanding personnel. I have copied these from www.nwseo.org.

1. Saving the CWSUs (center weather station unit to forecast to FAA) from consolidation – a culmination of a five year lobbying effort by NWSEO to preserve both aviation safety and NWS employee jobs. NWSEO spent over $200,000 in this lobbying effort and obtained the support of

the Senate Commerce Committee, the House Science Committee and the House and Senate Commerce, Justice and Science Appropriations Subcommittees

2. Securing back pay for overtime for nearly 200 NWS employees. Securing FLSA (fair labor standards act) Non-Exempt status of an additional 165 NWS employees. The NWS has agreed to pay two years' lost overtime wages and liquidated damages for those employees, as well.
3. Winning an appeal to bargain to increase staffing at Anchorage WFO (national weather forecast service office) by 10 positions - this directs the National Weather Service to bargain with NWSEO over a proposal that would increase staffing at the Anchorage WFO by ten positions.
4. Securing special projects designed to increase aviation safety, which include increased NWS personnel at the CWSU and WFOs in New York City, Atlanta, and Chicago.
5. NWSEO secured an agreement that upgrades to a GS -8 every Administrative Support Assistant at field offices around the country. The GS -8 upgrade includes approximately one million dollars in extra pay and benefits to the lowest paid NWS employees each and every year from now on.

Note that Items 2 and 5 suggest the possibility of raising compensation above market levels. Items 1, 3, and 4 suggest the possibility of expanding staffing that may not be justified on a cost-benefit basis.

The NWSEO also has a top 20 historical achievement list that also includes items that raise the possibility of expanding staffing and impeding organization changes, and raising compensation above market. These include:

1. Defeated the agency's plans to reduce staffing and consolidate Forecast Offices (CONOPS).

2. Defeated the agency's plan to eliminate nearly 400 HMTs and instead negotiated for the creation of new promotional opportunities for HMTs (the GS-12 OPL position) and true time and one-half overtime for HMTs.

5. Won an arbitration case which requires the agency to maintain at least two employees on duty on every forecast shift.

9. Negotiated agreements that raised target grades of interns from GS-9 to GS-11 and that entitles interns to the first opportunity to apply for forecaster vacancies before outside candidates.

10. Won an arbitration case which requires the agency to make temporary promotions when forecasters cover vacant positions for 20 days or more.

Some of these items prevented organizational changes involving the deployment of manpower or the organization of the NWS that would presumably have enhanced efficiency of the NWS. Some other items raised compensation possibly above market levels.

These actions do indicate contrasting objectives between the NWSEO and the NWS. The NWSEO's mission has been to represent its members by obtaining high compensation and job security. However, these NWSEO objectives may possibly be raising costs and reducing efficiency. A cooperative relationship between the NWSEO and the NWS that focuses on increasing productivity and customer value will be central for the future success of both parties.

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Figure 1: Unionization Rates

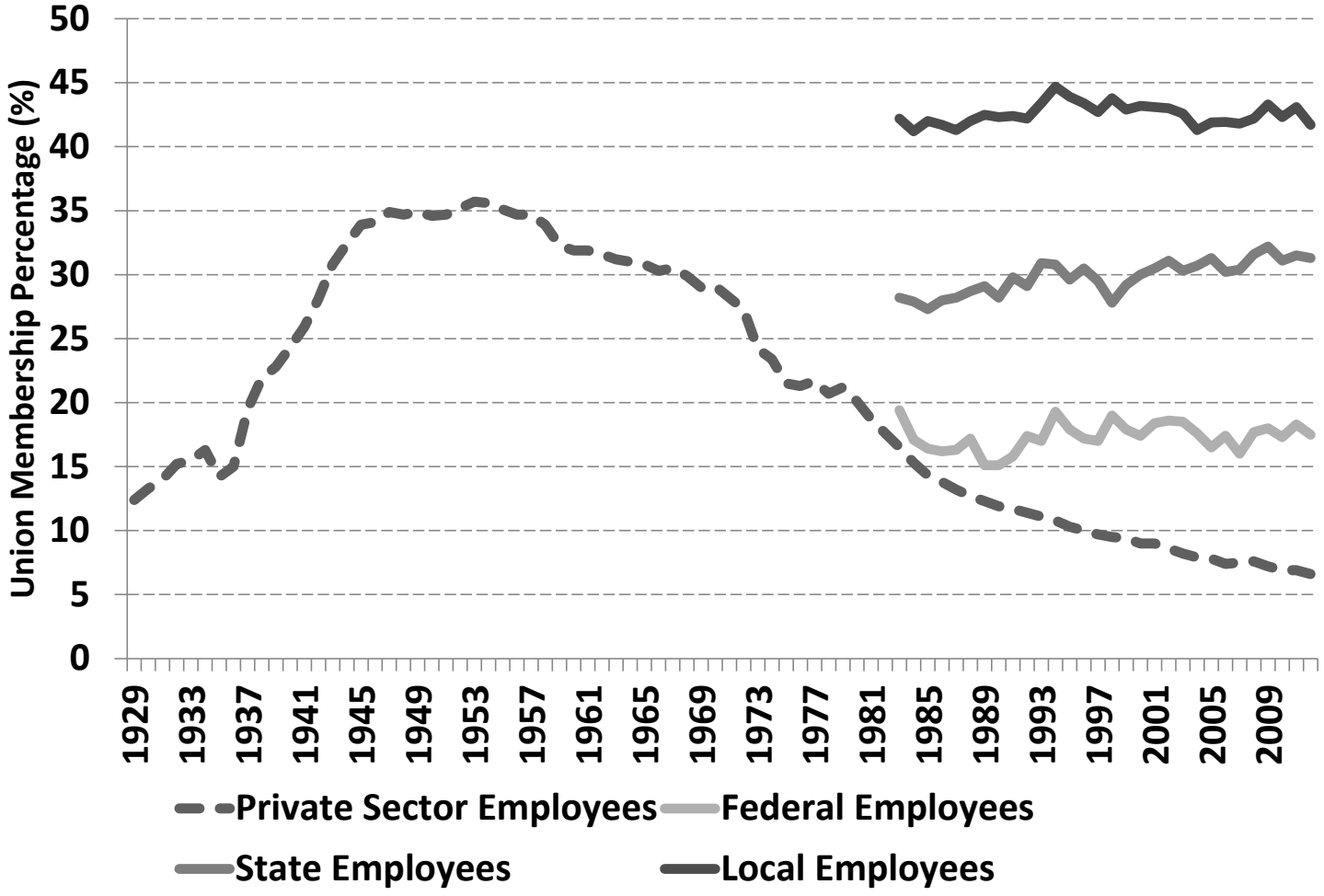

Figure 2: Compensation