
Why WARN? The Impact of Recent Plant-Closing and Layoff Prenotification Legislation in the United States

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In July 1988, Congress passed the Worker Adjustment and Retraining Notification Act, which requires employers with one hundred or more employees to provide workers, the state government dislocated worker unit, and local government officials with sixty days' written advance notice before they shut down or make large-scale layoffs. Although legislation calling for advance notice had been active in Congress every year since 1979, 1988 represented the first year that advance notice legislation passed both houses of Congress, and President Reagan, although philosophically opposed to the legislation, bowed to election-year political pressure and did not veto it.

WARN went into effect on February 4, 1989. It requires covered employers to give sixty days' notice of a plant closing or of a layoff that is planned to last at least six months that involves either five hundred or more workers or at least one-third of the employer's work force. Coverage is not universal, however. In addition to not covering small employers, employers are exempted for a number of reasons. Employers are exempted, for example, if they are actively seeking ways to avoid the shutdown (such as trying to find a buyer for the business), if business circumstances that could not be "reasonably foreseen" occur, if a natural disaster directly caused the shutdown or mass layoff, if the employer relocated the business within a "reasonable" commuting distance of its previous location and offers employees jobs at the new location, if the workers to be displaced were hired with the understanding that their employment was limited to the duration of a particular project, or if a planned layoff of less than sixty days was extended because of "unforeseeable" circumstances. In all circumstances, the burden of proof is on the employer to demonstrate that an exemption is warranted.

Penalties for failure to provide the required advance notice include back pay and benefits for each displaced worker for each day of violation and a fine of \$500 per day for failing to notify local governments. The determination of whether an

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employer who has failed to provide the required notice is covered by WARN or is exempted from the requirement for one of the above reasons is to be made by a federal district court only after a suit has been filed by employees, a union, or a local government. Unlike other forms of labor market legislation such as the Fair Labor Standards Act (governing minimum wages, overtime premium, and child labor) and the Occupational Safety and Health Act, the U.S. Department of Labor has no enforcement authority under WARN.

WARN was passed only after a decade of strenuous debate. We can now look back and address a number of issues it raised. What benefits did its proponents think would arise from the notice legislation, and what costs did its opponents think there would be? What public policies toward advance notice do other nations have? Did displaced workers in the United States receive advance notice before the passage of WARN? What do we know empirically about the effects on workers and firms of the provision of advance notice? What has experience under WARN taught us? Finally, what research issues need to be addressed to decide if WARN is a good idea, and what alternative public policies might help facilitate the provision of advance notice to displaced workers?

Hypothesized Benefits and Costs

Proponents of advance notice legislation argue that notice provisions ease displaced workers' shock and facilitate their search for alternative sources of employment or training. Advance notice to government agencies would allow them time to mobilize their resources to assist displaced workers. Indeed, a companion piece of legislation to WARN, the Economic Dislocation and Worker Adjustment Assistance Act (EDWAA), specifically required that the U.S. Department of Labor fund programs for states to aid dislocated workers and that each state create a state dislocated worker unit (DWU) with the capability of responding rapidly to plant closings and large-scale layoffs.

Advance notice would also allow employers, workers, unions, and local governments to work together to see if ways exist to prevent the plant closing or layoffs. Options might include wage concessions on the part of workers, tax concessions on the part of local government, restructuring of the work environment to improve productivity, or seeking new ownership, including possibly employee ownership.

To the extent that advance notice facilitates workers' transition to new jobs or helps avert worker displacement, proponents argue that it benefits local communities as well as individual workers. Plant shutdowns and massive layoffs place extra demands on communities for social services as the stress induced by unemployment causes an increased incidence of physical and mental ailments. These demands arise at the same time local sales and property tax revenue are reduced because of the fall in community members' incomes caused by the loss of jobs and the decline in property values that would result (Bluestone and Harrison 1982).

Opponents of advance notice legislation argued that it would restrict the free

mobility of capital and have a number of other adverse effects on firms. They argued that it would increase worker turnover and decrease productivity in that those productive workers with the best opportunities elsewhere would leave and the morale of remaining workers would suffer. They said it would also decrease the likelihood that buyers of the plant's product would place new orders, that banks would supply new credit, that suppliers would continue to provide services, and that the firm could sell the plant to potential buyers. (The latter explains one of the exemptions under WARN.) In addition, advance notice might depress corporate stock prices. Finally, by effectively increasing the cost of reducing employment, it would encourage firms not to expand operations or to substitute overtime hours for additional employment (McKersie 1982).

Critics often stress that the government should encourage firms to provide advance notice for workers about to be displaced; what they object to is making notice mandatory. Proponents respond that in the absence of mandatory advance notice very few displaced workers actually receive such notice; evidence we cite below suggests the proponents are probably correct.

In evaluating the case for advance notice legislation, it is important to stress that an employer does not bear the full social cost of the plant shutdown or mass layoff for two reasons. On the one hand, because the U.S. unemployment insurance system is financed by an "imperfectly experience-rated" payroll tax, an employer's unemployment insurance payroll tax payments will increase by less than the unemployment insurance benefits the employer's displaced workers receive. On the other hand, an employer typically does not take into account the costs that a mass layoff or plant shutdown imposes on the community.

Proponents of advance notice legislation argue that by implicitly increasing the "cost" of plant closings or mass layoffs, employers will be discouraged from taking such actions. Critics, of course, stress that anything that implicitly or explicitly increases labor costs will encourage the flight of jobs overseas.

Advance Notice Legislation before WARN

Most European nations have legislation that calls for advance notice when employees are to be laid off. As table 7-1 indicates, when an individual's employment is terminated, the length of notice required in these countries typically depends on whether the individual is a white-collar or a blue-collar employee and on his or her length of service with the firm. Typically, in cases when large-scale layoffs or plant shutdowns are contemplated, the legislation also calls for advance notice to be given to unions and the government and for the employer to negotiate with employees and the government over whether the displacement can be averted. Often the legislation requires severance pay for displaced workers, and some countries, such as Sweden, have detailed programs of labor market services, including retraining, job placement, public works jobs, and wage subsidies, to facilitate labor market adjustments. In many European countries, establishments with fewer than one hundred employees are exempt from advance notice requirements, perhaps because the government does not want to add to the costs of small

TABLE 7-1. *Requirements for Advance Notice for Termination of Employment in European Countries, 1989^a*

<i>Country</i>	<i>Minimum length of service</i>	<i>Employer notice</i>
Austria	Blue collar	2 weeks
	White collar	
	< 2 years	1 month
	2-5 years	2 months
	5-15 years	3 months
	15-25 years	4 months
	> 25 years	5 months
Belgium	Blue collar	
	< 6 months	1 week
	6 mos.-20 yrs.	4 weeks
	> 20 years	8 weeks
	White collar	
	< 5 years	3 months
	5-9 years	6 months
> 9 years	6 months plus 3 months per each 5 years of service over 9	
Denmark	Blue collar	Set by collective bargaining
	White collar	
	< 6 months	1 month
	6 months-2 years, 9 months	3 months
	2 years, 9 months-5 years, 8 months	4 months
	5 years, 8 mos.-8 years, 7 months	5 months
	> 8 years, 7 months	6 months
France	6-24 months	1 month
	> 24 months	2 months
Greece	Blue collar	Set by collective bargaining
	White collar	
	1 year	1 month
	1-4 years	2 months
	4-6 years	3 months
	6-8 years	4 months
	8-10 years	5 months
> 10 years	5 months plus 1 month per year of service over 10 up to a maximum of 24 months	
Ireland	13 weeks-2 years	1 week
	2-4 years	2 weeks
	5-9 years	4 weeks
	10-14 years	6 weeks
	15 years or more	8 weeks

TABLE 7-1. (continued)

<i>Country</i>	<i>Minimum length of service</i>	<i>Employer notice</i>
Luxembourg	Blue collar	
	up to 5 years	4 weeks
	5-10 years	8 weeks
	more than 10 years	12 weeks
	White collar	
	up to 5 years	2 months
Malta	5-10 years	4 months
	more than 10 years	6 months
	1-12 months	1 week
	1-2 years	2 weeks
Netherlands	2-5 years	4 weeks
	5 years or more	8 weeks
	All	1 week + 1 week per year of service over age 21 (to a max. of 13) + 1 week per year of service over age 45 (to a max. of 13) up to a max. of 26 weeks
Norway	< 5 years	1 month
	5-9 years	2 months
	10 years, age 50+	4 months
	10 years, age 55+	5 months
	10 years, age 60+	6 months
Portugal	See note b	2-3 months
Spain	< 1 year	1 month
	1-2 years	2 months
	> 2 years	3 months
Sweden ^c	Age 25-29	2 months
	Age 30-34	3 months
	Age 35-39	4 months
	Age 40-44	5 months
	Age 45 and over	6 months
United Kingdom	1 month-2 years	1 week
	2-11 years	1 week per year of service
	12 or more years	12 weeks
West Germany	Blue collar	
	all employees	2 weeks
	5-9 years (worked over age 35)	1 month
	10-19 years (worked over age 35)	2 months
	20 yrs. or more (worked over age 35)	3 months

TABLE 7-1. (continued)

Country	Minimum length of service	Employer notice
West Germany	White collar	
	all employees	1 month
	5-8 years (worked over age 25)	3 months
	8-10 years (worked over age 25)	4 months
	10-12 years (worked over age 25)	5 months
	12 years or more (worked over age 25)	6 months

Source: Authors' interpretation of material in issues of the *European Industrial Relations Review* between May 1985 and November 1989.

^aThese notice requirements govern termination of an individual's employment. In some countries additional provisions govern notification of unions and governments when collective dismissals are contemplated.

^bNotice required only if two or more workers in companies with fewer than fifty employees or five or more workers in companies with more than fifty employees are dismissed.

^cNo statute; typical collective bargaining provision.

businesses (which typically have high failure rates) or because of the belief that shutting down a small business does not have a substantial negative effect on a community.

As table 7-2 indicates, in Canada, both federal and provincial legislation require advance notice. The notice required for individual terminations typically depends on an individual's prior service with the employer. In cases of anticipated plant shutdowns or large-scale layoffs, the length of notice required is longer—typically exceeding the sixty-day notice required by WARN.

Before the passage of WARN, advance notice legislation in the United States was much more modest. Debate about such legislation seriously began with the deep recession of the mid-1970s. The large number of plant closings and permanent layoffs in major manufacturing industries since then increased interest. As has often been the case with other forms of government regulation of conditions of employment in the United States, action by states preceded federal action.

As of early 1988, there was no federal law and only a few state laws relating to advance notice. Three states—Maine, Wisconsin, and Hawaii—required advance notice of plant shutdowns (with size class exemptions). Maine also required one week's severance pay per year of service for workers with more than three years of tenure. The penalties for noncompliance were low in Maine (\$500 per establishment) and Wisconsin (\$50 per employee) but high in Hawaii (three months' wages and benefits per laid-off worker). Connecticut did not require advance notice, but did require nonbankrupt firms to maintain health insurance and other benefits for up to 120 days for workers unemployed because of plant shutdowns. Massachusetts, Maryland, and Michigan all had voluntary programs in which firms were urged to provide advance notice and/or to continue benefits. Finally, South Carolina "required" employers to give workers two weeks' notice before shutting down but only in situations in which employees were required to give advance notice before quitting.

TABLE 7-2. Notice Requirements for Termination of Employment in Various Jurisdictions of Canada, January 1, 1988^a

Jurisdiction	Individual termination		Mass terminations		
	Minimum length of service	Employer notice	Number of employees	Employer notice	
Federal	3 months	2 weeks	≥ 50	16 weeks	
Alberta	3 months–2 years	1 week	No special legislation		
	2 years–4 years	2 weeks			
	4 years–6 years	4 weeks			
	6 years–8 years	5 weeks			
	8 years–10 years	6 weeks			
British Columbia	10 years or more	8 weeks			
	6 months–2 years	2 weeks	No special legislation		
Manitoba	≥ 3 years	Number of weeks equal to years of service to maximum of 8 wks.			
	> 2 weeks		1 pay period	50–100	10 weeks
				101–300	14 weeks
New Brunswick	> 300			18 weeks	
	6 months–5 years	2 weeks	≥ 25 if they represent at least 25% of employer's work force	4 weeks	
Newfoundland	≥ 5 years	4 weeks			
	1 month–2 years	1 week	50–199	8 weeks	
Nova Scotia	≥ 2 years	2 weeks	200–499	12 weeks	
	3 months–2 years	1 week	≥ 500	16 weeks	
	2 years–5 years	2 weeks	10–99	8 weeks	
	5 years–10 years	4 weeks	100–299	12 weeks	
Ontario	≥ 10 years	8 weeks	≥ 300	16 weeks	
	3 months–1 year	1 week	50–199	8 weeks	
	1 year–3 years	2 weeks	200–499	12 weeks	
Prince Edward Island	3 years or more	No. of weeks equal to years of service to a max. of 8 weeks	≥ 500	16 weeks	
	3 months	1 week	No special legislation		
Quebec	3 months–1 year	1 week	10–99	8 weeks	
	1 year–5 years	2 weeks	100–299	12 weeks	
	5 years–10 years	4 weeks	≥ 300	16 weeks	
	≥ 10 years	8 weeks			

TABLE 7-2. (continued)

Jurisdiction	Individual termination		Mass terminations	
	Minimum length of service	Employer notice	Number of employees	Employer notice
Saskatchewan	3 months-1 year	1 week	No special legislation	
	1 year-3 years	2 weeks		
	3 years-5 years	4 weeks		
	5 years-10 years	6 weeks		
	≥10 years	8 weeks		
Northwest Territories	No notice provisions		No special legislation	
Yukon Territory	6 months	1 week	25-49	4 weeks
			50-99	8 weeks
			100-299	12 weeks
			≥300	16 weeks

Source: *Canadian Master Labor Guide*, 1989.

*In some cases, employee notice of intent to terminate employment is also required. The federal provisions apply to federal employees and to employees in regulated industries. Provincial regulations apply to both public and private employees with certain exemptions. These exemptions are for both temporary layoffs of specified durations and for certain industries. Some laws also require severance pay. Generally, the penalty for failure to provide the required notice is payment of the employees' regular wages for the specified period.

Before WARN, displaced workers in the United States may have received advance notice of a pending layoff or plant shutdown if they lived in a state in which such notice was required, if a collective bargaining agreement required notice, or if an employer voluntarily chose to provide notice. What fraction of displaced workers actually received advance notice under these circumstances? Three employee-based surveys have recently collected such information. These were the Survey of Displaced Workers (SDW), supplements to the January 1984, January 1986, and January 1988 Current Population Surveys (CPS), the monthly national probability sample of the population from which our unemployment and labor force statistics are derived. These supplements covered workers who were displaced during the 1979-83, 1981-85, and 1983-87 periods respectively.

Table 7-3 presents data on the proportion of displaced workers in these surveys who received advance notice or expected layoffs. For the purpose of this table, displaced workers are defined as persons who permanently lost or involuntarily left a full-time wage and salary job in which they had been employed for at least three years. These data, presented in the first three rows of the table, suggest that more than half the workers displaced during the 1979-87 period did receive advance notice or expect their layoff. Thus, at first glance, it may appear that a substantial fraction of displaced workers in the United States did receive advance notice before WARN.

One must caution, however, that the question "Did you receive advance notice or expect layoff?" does not distinguish between receipt of formal written notice and the situation in which a worker simply could "see the handwriting on the

TABLE 7-3. Proportion of Displaced Workers Who Received Advance Notice or Expected Layoff in the January 1984, January 1986, and January 1988 CPS Displaced Worker Supplements

Received advance notice or expected layoff	
January 1984 Survey (workers displaced in 1979–83)	.56
January 1986 Survey (workers displaced in 1981–85)	.55
January 1988 Survey (workers displaced in 1983–87)	.58
Received written advance notice	
Received written notice of less than one month	.06
Received written notice of one to two months	.05
Received written notice of two or more months	.07
Received written notice but failed to report length	.02

Source: Authors' calculations from U.S. Bureau of Labor Statistics 1985 and 1987 and tables from a forthcoming bulletin covering the 1983–87 period.

wall' because his or her employer was in trouble. Similarly, it provides no information on the length of advance notice that was received; this is a crucial shortcoming in that the effectiveness of advance notice policies in preventing displacements and easing displaced workers' transitions back to employment presumably depends partially on how far in advance notice is given.

Fortunately, the January 1988 SDW, which covered workers displaced during the 1983–87 period, specifically asked displaced workers if they received formal written advance notice. If individuals answered in the affirmative, they were also asked whether the notice was less than one month, one month to less than two months, or two months or more. The answers to these questions are tabulated in the bottom rows of table 7–3.

Quite strikingly, only 20 percent of these displaced workers reported receiving written advance notice. Moreover, most reported receiving written notice of relatively short duration. Indeed, only 7 percent of the displaced workers reported receiving written notice two or more months before their impending displacement. Hence, before the passage of WARN, only a small fraction of displaced workers actually received the sixty days' written advance notice of displacement that WARN now requires. Two recent studies of employers who laid off a substantial number of workers, one conducted by the U.S. Bureau of Labor Statistics and the other by the U.S. General Accounting Office, confirm this conclusion (see Addison 1991).

Does Providing Advance Notice Matter?

Studies of the effects of legally mandated, collectively bargained, or voluntarily provided advance notice before the passage of WARN have been of two types. The first type looked at the effects of advance notice on employment-related variables at the national or community level. One study that used aggregate data from twenty-three countries over the 1956–84 period found weak evidence that advance notice requirements increase the fraction of the population that is em-

ployed but decrease their average weekly hours (Lazear 1987). The author attributed these findings to the fact that many nations with advance notice laws exempt part-time employees and thus encourage employers to substitute part-time for full-time employees.

WARN was in fact designed to reduce the possibility of such substitution. Although part-time employees who work fewer than twenty hours a week are not counted under WARN in determining whether a firm has at least one hundred employees and thus is required to give advance notice of displacement, part-time employees who are displaced from covered firms are required to receive notice under WARN.

Another study examined the effects of plant closings in Maine in a period before the enactment of that state's law. It found that voluntary provision by a firm of at least one month's advance notice to its displaced workers significantly reduced the impact of the closing on the local area's unemployment rate in the month of the closing (Folbre, Leighton, and Roderick 1984). While this result may be due to more rapid reemployment of displaced workers in the presence of advance notice, the authors also found that advance notice was associated with a significant reduction in the size of the local labor force in the month of the closing. This latter result may reflect either labor force withdrawal or outmigration (and possibly reemployment elsewhere); they were unable to ascertain which had occurred.

The second, and by far more numerous, type of studies examine the effects of advance notice on individual displaced workers. For example, one early study of thirty-two plant closings in the United States in the late 1950s and early 1960s found that voluntarily provided advance notice rarely led to increased quit rates or decreased productivity by workers (Weber and Taylor 1963).

More recently, numerous authors, including ourselves, have drawn inferences about the empirical effects of advance notice from analyses of the January 1984 and January 1986 SDW data (Ehrenberg and Jakubson 1988, 1989; Addison and Portugal 1986, 1987a, 1987b; Howland 1988; Podgursky and Swaim 1987a, 1987b; Swaim and Podgursky 1990). On balance, these studies suggest that the provision of advance notice significantly increases the likelihood that a displaced worker will not experience any unemployment. That is, advance notice does provide time for some soon-to-be-displaced workers to find new jobs before their date of displacement. But, in contrast, these studies also suggest that once an individual experiences any unemployment, the presence of advance notice has no effect on his or her ultimate duration of unemployment. Thus, advance notice seems to help only if individuals can find employment before being displaced.

Moreover, receipt of advance notice appears, for the most part, to have no effect on subsequent earnings once a displaced worker is reemployed. Finally, among the people in the SDW who received advance notice, there was no evidence that a firm's most productive workers were more likely to quit before the displacement date, thereby disrupting the firm's operations in its final weeks.

All of these conclusions were based on analyses of the 1984 and 1986 SDW data in which respondents were asked if they "received advance notice or expected layoff." Data from the January 1988 SDW, summarized in table 7-3, suggest

that most people who responded affirmatively probably did not receive formal written notice and that those who did primarily received notice of relatively short duration. Recent analyses of the 1988 SDW data suggest that formal written notice increases the likelihood that an individual will experience no spell of unemployment but that the magnitude of the effect of advance notice is smaller than when the broader definition of notice found in the 1984 and 1986 studies was used (Ruhm 1989; Addison and Portugal 1989). Moreover, written notice of at least sixty days lowered the probability of experiencing unemployment by a greater amount than written notice of a shorter duration (Nord and Ting 1991).

Together, these studies suggest that written advance notice per se does not determine a worker's success at finding reemployment after displacement but rather whether, based on the worker's general perceptions of the likely future of the employer, the worker has made efforts to search for new employment. Written advance notice will matter only if it substantially provides new information to the worker on his or her future employment prospects and only if it is of sufficiently long length to give the worker time to conduct a serious job search before being displaced.

Early Experiences under WARN

WARN has only recently come into effect and it is too early to do a formal evaluation of the law. Conversations with U.S. Department of Labor personnel and staff at the state DWUs in a number of states, however, provide several insights into how it is faring. First, compliance with WARN appears to be high. Unlike many other protective labor laws, enforcement of WARN takes place through suits filed in individual federal district courts, not through an office in the U.S. Department of Labor. As such, there is no central receiver of complaints of noncompliance and one has to search hard to obtain evidence. State DWUs, as well as the U.S. Department of Labor, receive numerous inquiries from unions and employees who feel they should have received advance notice, but often it appears that the employers were not required to file because the establishment was small or the size of the layoff exempted them from the law.

Indeed, WARN appears to be providing numerous employment opportunities for lawyers, who often appear to be advising their employer-clients to behave conservatively. As a result, even employers who are not legally required to provide advance notice are often doing so. For example, of the 167 advance notifications received by Pennsylvania's DWU from the time of WARN's enactment though January 9, 1990, only 117 were from employers who were legally required to provide notice. Put another way, about 30 percent of the notifications received were not required under the law. (This pattern was not observed, however, in at least one of the other states contacted.)

Why would employers who did not have to comply with WARN do so? One possibility is that the debate over the passage of the law raised their consciousness of what a "good employer" is. A second possibility is that the law is so complex and so ambiguous that they are simply trying to protect themselves. The penalties

for noncompliance are so high (up to sixty days' back wages and benefits) that many employers may be deciding that it is cheaper to comply than to risk being found guilty of a violation.

As a result, although a number of individuals and unions have indicated to state and federal personnel that they intend to file suits for noncompliance, the number of suits actually filed appears to be very small. As of early January 1990, state DWU personnel in a number of northeastern and midatlantic states knew of no lawsuits being filed in their states, and the solicitor's office of the U.S. Department of Labor knew of only eight to ten cases in progress. While it is possible that the cost of pursuing lawsuits is discouraging complainants from filing claims, on balance it appears that compliance with WARN is high. This should be contrasted with the relatively high noncompliance rates for the minimum wage and overtime pay premium provisions of the Fair Labor Standards Act, even though the penalties for noncompliance and the likelihood of being identified as a noncomplier are quite low.

Second, contrary to popular opinion, WARN is not affecting solely or even primarily manufacturing employers. For example, statistics from the second half of 1989 indicate that only 27 percent of the notifications in Pennsylvania were from employers in manufacturing. Similarly, during the same period, less than 40 percent of the displaced workers covered by notifications in New York State came from manufacturing; the majority had been employed in wholesale trade, retail trade, finance insurance and real estate, or service sector jobs. While public debate over advance notice legislation in the United States was precipitated by concern over the declining manufacturing base, WARN affects a much larger range of industries.

Third, WARN per se does not affect a substantial share of permanently laid-off workers in the United States. During the February 1, 1989, to December 31, 1989, period, the first eleven months in which WARN was in effect, there were 127 advance notifications in New York State, involving 22,822 workers. During the same period of time there were 657,247 new claims filed for unemployment insurance benefits and 490,889 first payments made to unemployment insurance recipients in the state. The difference between the number of new claims filed and first payments reflects individuals who were determined to be ineligible for benefits (i.e., those who were dismissed for cause or quit their jobs rather than being laid off) and those laid-off workers who found new jobs within a week.

Even if we ignore the fact that some workers covered by WARN notifications may have found jobs within one week of their displacement (prior studies suggest that about 10 percent of them likely would), it is clear that workers involved in WARN notifications are only a small fraction of all new unemployment insurance recipients in the state. Indeed, during the eleven-month period in question, they represented approximately 4.6 percent ($22,822/490,889 \times 100$) of the state's new unemployment insurance recipients. Even if half these recipients were on temporary layoff waiting to be recalled by their employers, less than 10 percent of permanently displaced workers due to layoffs or plant shutdowns in New York State received advance notice under WARN.

This percentage is low for two reasons. First, as noted above, small firms are not covered by the law, and there are numerous exemptions under WARN. Second, WARN covers only plant shutdowns and mass layoffs. Unlike the laws prevailing in Canada and many European countries, advance notice for layoffs of individuals or small numbers of employees is not required under WARN.

Implications for Future Research and Public Policy

Empirical studies suggest that advance notice may well facilitate labor market adjustments by allowing displaced workers to find employment before their date of displacement. Advance notice appears to reduce the probability that displaced workers will suffer any spell of unemployment and thus may well moderate temporary increases in area unemployment rates. Moreover, virtually all of the studies include as receiving "advance notice" notice of very short duration and thus the results in these studies may well understate the effects of mandated notice of longer duration accompanied by the other supportive services that WARN calls for. Nor did the individual-based data used in most of the studies permit analyses of whether advance notice of pending displacements lead to actions (e.g., reorganization, wage concessions, employee ownership) that help avert displacements.

Although opponents of advance notice cite the potential costs of such policies, empirical studies have found no evidence that advance notice causes the most productive workers to leave the firm or that the productivity of the remaining workers suffers. Moreover, save for one study that used aggregate international data, no studies have provided systematic empirical evidence on the adverse effects of advance notice that opponents have enumerated (Lazear 1987).

While at first glance this discussion suggests support for WARN, several cautions are in order. First, the effects of voluntary provision of advance notice in situations where workers expect impending displacement anyway may be very different from the effects of mandated advance notice in situations where the impending displacement is completely unexpected by workers.

All of the research conducted for the United States has used data that predated WARN. Future research will need to analyze data from subsequent years' versions of the SDW that cover periods when WARN was in effect. Since WARN requires advance notice only for large-scale displacements in large firms, researchers will have to take care to distinguish the effects of WARN from the effects of being displaced as part of a large-scale displacement from a large firm. In addition, to estimate adequately the effects of advance notice per se will require researchers to try to model what displaced workers' expectations of displacement would have been in the absence of advance notice. Put another way, researchers will need to estimate whether formal advance notice actually communicates new information to workers.

Second, the observation that the voluntary provision of advance notice appears to reduce the probability that a displaced worker will suffer any unemployment does not necessarily imply that mandated advance notice will increase employment and decrease unemployment rates. Indeed, one can conceive of situations in which

displaced workers compete for a fixed number of vacant positions that only a fraction of them can obtain. Advance notice gives those workers who receive notice an advantage; it increases their probability of finding one of these jobs. If the number of vacant positions is truly fixed, however, by necessity the probability that workers who failed to receive notice will find jobs would have to go down. In this case, the gains to those workers who received notice would come solely at the expense of those workers who failed to receive notice. There would be no social gains from advance notice in that, on average, it would not influence aggregate employment levels and/or unemployment rates.

Studies that use individual-based data sets, such as the SDW, cannot test for the possibility of such displacement effects. The only study of U.S. data that addressed this issue did find evidence that voluntary provision of advance notice led to smaller temporary increases in area unemployment rates (Folbre, Leighton, and Roderick 1984). The one cross-country study of international data, however, found no positive effects of mandated advance notice on aggregate employment levels and unemployment rates (Lazear 1987). Clearly, more studies that focus on the effects of advance notice on area economic outcomes are needed.

Suppose for a moment that all voluntarily provided advance notice actually does is "reshuffle" jobs among displaced workers from those people who fail to receive notice to those people who do receive it. In fact, evidence of such reshuffling might strengthen the case for legislation like WARN if the people who receive notice voluntarily are the ones least in need of such assistance. For example, if before WARN high-wage, unionized workers were more likely to receive notice than comparably skilled, lower-wage nonunion workers (which some data suggest was the case), implementation of WARN would allow the latter a "better shot" at competing with the former for the available jobs when they are displaced. One thus might be in favor of WARN because of its potential redistributive effects, even if one believes it will have no net effect on aggregate employment or unemployment.

Third, it is important when designing a policy intervention like WARN to be clear about the source of public concern. If the major concern is the costs imposed on a local community by a plant closing or large-scale layoff, then public policy should specifically address this concern. While such a concern may argue for advance notice legislation, in this case exemptions from notice requirements should be based on the size of the displacement relative to the local labor market not on the absolute sizes of the displacement and the employer, as is currently done under WARN. In contrast, if the source of the concern is the private costs workers suffer from displacement, then requirements for advance notice of individual displacements and/or severance pay provisions, similar to those that exist in many European countries, might be worth considering.

Indeed, it is worth reemphasizing that the data presented here suggest that only a small proportion of permanently displaced workers in the United States actually receive advance notice of their displacement under WARN. The major reason for this is that WARN exempts small employers and small-scale or individual layoffs at large employers. To the extent that one believes that advance notice is a desirable

policy, one might also consider adopting policies that provide incentives for employers to provide advance notice voluntarily for exempted employees. For example, the federal government could provide incentives to firms to provide such notice by funding a share of the unemployment benefits received by notified workers and/or by reducing the corporate profit tax rates of firms that voluntarily provide advance notice to displaced workers.

Finally, well-designed research is needed to address more adequately issues relating to the macro labor market effects of WARN, including whether advance notice of impending displacement helps prevent displacement from occurring, as proponents of the legislation often assert. Moreover, since so much of the research has focused on the potential benefits of advance notice legislation, subsequent studies of WARN might also focus on research issues that have concerned opponents, namely those relating to the potential costs of the legislation.