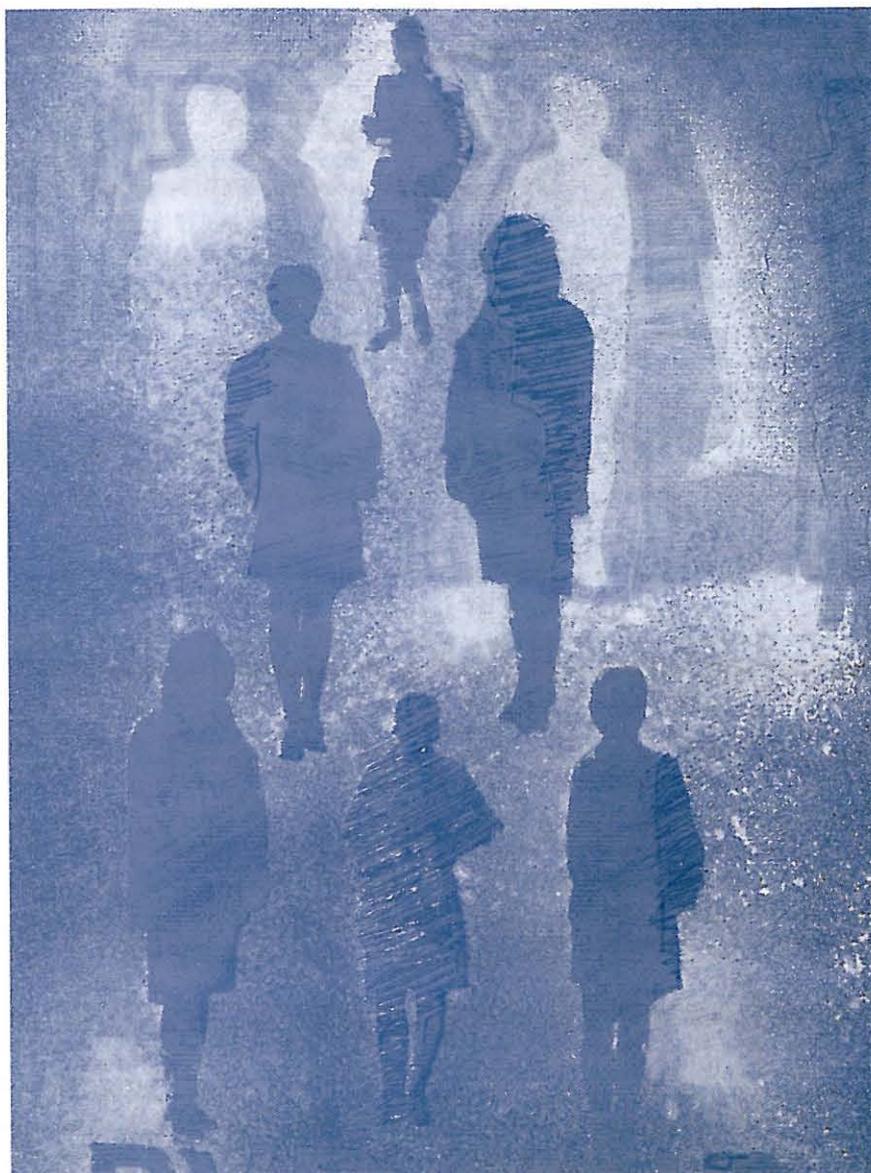


# Economy and Work Stress: Are They Related and How?

TAPAS K. RAY AND STEVEN L. SAUTER



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Stress is a prevalent and costly problem in today's workplace. Scientific surveys, such as the General Social Survey,<sup>1</sup> have consistently shown high levels of job stress among one-third or more of the workforce during the last two decades, and a recent survey by the American Psychological Association (2009) found that work was the primary source of stress among men.<sup>2</sup>

Much is known about the conditions of work itself and the risks they present for stress.<sup>3</sup> The same is not true for effects of the economic environment. Numerous studies in the last four decades have examined relationships between indices of economic contraction (especially unemployment) and economic expansion, and illness, injury, and stress-related disorders.<sup>4</sup> However, uncertainty remains about the risks these economic conditions pose to well-being. Findings in several studies are attributed, in part, to effects of macroeconomic factors on working conditions—some suggesting, for example, that economic downturns are associated with heightened demands at work.<sup>5</sup> Others argue the same for periods of economic expansion.<sup>6</sup> It is of interest, however, that with few exceptions, many of these studies did not directly investigate effects of macroeconomic factors on work-related mechanisms that may underlie observed health and safety

outcomes. Rather, such effects were inferred. A notable exception is the work of Fenwick and Tausig (1994), which showed that the effects of recession on job stress could be explained entirely by degraded working conditions.<sup>7</sup>

In the present study, we sought to add clarity to the relationship between macroeconomic conditions and risk of job stress by directly investigating fluctuation in the economy and near-term effects on job characteristics that are known risk factors for job stress, specifically, *workload demands* and the degree of *job control* exercised by workers.

### Effects of the Economy on Job Characteristics—Possible Scenarios

With regard to workload demands, we reasoned that increasing unemployment rates during economic downturns may be associated with more demanding and stressful working conditions as workloads once assumed by now absent (laid-off) workers are shifted to the remaining workforce. Also, remaining workers may also be motivated to expend extra effort to retain their jobs in periods of recession. Alternatively, the slowdown in economic activity during economic contractions may alleviate workers of pressures that may otherwise be present in times of economic prosperity. Workers may also respond more favorably (report less pressure) during downturns owing to fear of job loss (see Asfaw and colleagues for further discussion of these different perspectives).<sup>8</sup> Excessive workloads might also be anticipated in a rapidly expanding economy under the assumption that adequate staffing levels may lag somewhat during these periods.

Research shows that job control, sometimes referred to as “decision latitude,” serves as an important buffer against stress.<sup>9</sup> Job control has been operationalized in the job stress literature in terms of opportunities for learning, task variety, and decision making. While job control is generally found to be protective of worker

health, it’s unclear how control might be affected by fluctuation in the economy and what the effects might be, although Fenwick and Tausig found diminished control during recession. During periods of economic stability, increases in control might be associated with enlargement or enrichment of jobs and have salutary effects on well-being. However, in the presence of staffing reductions during economic contraction or, in the presence of insufficient staffing during expansion, workers may need to assume expanded roles. Learning and performing new tasks and increased decision making under these conditions might actually take the form of new responsibilities and, paradoxically, add to the intensification of work and risk of stress.

### Our Study Approach

We used logistic regression methods to predict workload demands and job control based upon the rate and direction of recent changes in unemployment and GDP. Data were pooled from nationally representative surveys of employed workers in the United States that contained measures of workload demands and job control. These surveys included (a) the US Department of Labor Quality of Employment Surveys (three samples), (b) the NIOSH (National Institute for Oc-

cupational Safety and Health) Quality of Work Life Survey (two samples), and (c) the Families and Work Institute National Study of the Changing Workforce Survey (one sample). As shown in Figure 1, the six surveys were spaced variably from 1969 to 2006, and thus we were able to look at levels of workload demands and job control at different stages of fluctuation in the economy. Each survey contained the same three items corresponding to workload demands and the same four items corresponding to job control.

#### Demands

- *I have enough time to get the job done.*
- *My job requires that I work very fast.*
- *I am free from conflicting demands that other people make of me.*

#### Control

- *My job requires that I keep learning new things.*
- *I get to do a number of different things on my job.*
- *I am given a lot of freedom to decide how to do my own work.*
- *I have a lot of say about what happens on my job.*

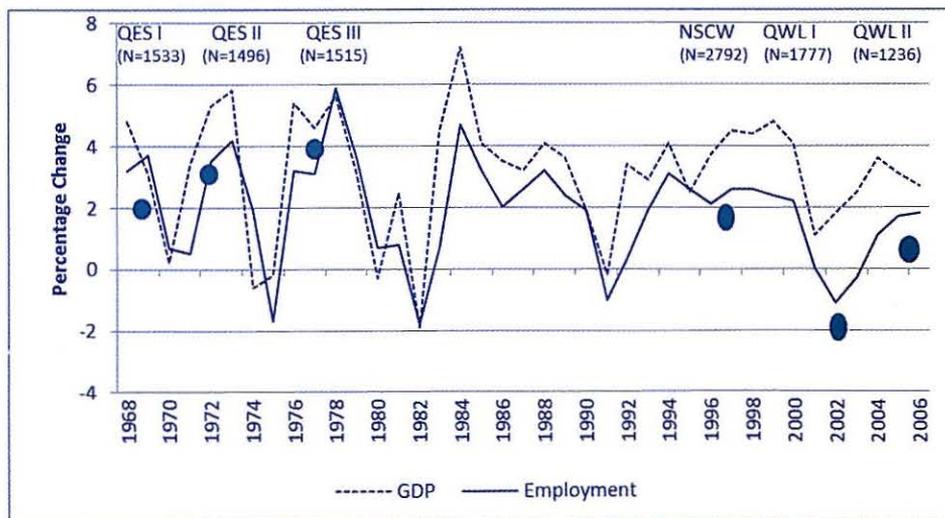


Figure 1. US Business Cycle, Survey Data Points, and Survey Sample Sizes.

For the measures of macroeconomic conditions, we calculated rate of change in unemployment in the two quarters immediately preceding each survey point:  $Unemployment (Q_{T-1} - Q_{T-2}) \div Unemployment Q_{T-2}$ . We did the same for GDP. Unemployment measures were industry-specific.

Importantly, all the regression models included gender, education, marital status, occupation, workplace size, union membership status, availability of good fringe benefits, and sense of job security as control measures. Of special note, we adjusted for job security with the idea that perceived job security might substantially color worker perceptions and reports of job characteristics apart from the more direct effects of macroeconomic conditions on job characteristics.

### What We Found

Results of our analyses suggested a positive relationship between unemployment and work intensification. As shown in Table 1 (Panel A), the odds ratios for effects of two of the three workload demands measures (enough time to finish the jobs; free of conflicting demands) are significant and less than 1.0. This means that, were the rate of unemployment to increase, the odds that workers agree they have enough time and are free of conflicting demands would fall. A plausible explanation for these findings is that organizational downsizing and workforce reductions that are prevalent during recessionary periods are disproportionate to the reduced market demands and create a situation of work overload and risk of stress for remaining workers.

Our analyses suggest a mixed relationship between unemployment and job control (Panel B and C). As shown in Table 1, were the rate of unemployment to increase, so too would the odds (i.e., odds > 1.0) that workers report they have numerous things to do and greater opportunities for new learning (Panel B). However, decision-making freedom

(Panel C) is negatively related to unemployment (odds < 1.0), providing mixed findings for the control measure.

Theory posits that control is actually comprised of two constructs—skill discretion (corresponding here to new learning and doing a variety of things, Panel B) and decision authority (corresponding here to freedom in decision making and having a lot to say about what happens on the job, Panel C). Thus, there is rather clear evidence of a positive relationship between unemployment and skill discretion, and more equivocal evidence of a negative relationship with decision authority. Although job stress theory would interpret increases in skill discretion in salutary terms,<sup>10</sup> in the context of increasing workload demands, an alternative interpretation might be considered. As suggested, in the presence of understaffing, the effect for skill discretion (new learning and doing a variety of things) might be less a marker of increased discretionary behavior than a reflection of the obligation for workers to assume expanded work roles result-

ing in further intensification of work. At the same time, it is not unreasonable to expect that opportunity for individual decision making could be reduced as workload pressures increase, which is consistent with the effect for at least one of the decision authority measures here.

Curiously, we found no evidence of a relationship between variation in GDP and reported workload demands. Assuming that rising GDP is reflective of increasing market demands, and given the conventional wisdom that new hiring tends to lag in periods of market recovery, a positive relationship between work pressure and increasing GDP might have been expected. To further investigate the relationship between economic expansion workload demands, we went a step further and investigated the relationship between rate of change in new business investments and the present workload indicators. Although not shown in Table 1, the results were not much different. We found a significant effect for just one of the workload measures, indicating a positive relationship between new

**Table 1. Effects of Macroeconomic Factors on Workload Demands and Job Control (odds and 95 percent confidence interval for saying yes to each job characteristic with a 1 percent increase in the rate of change in unemployment and GDP).**

Panel A. Effects for Workload Demands		
Job Characteristics	Unemployment	GDP
<i>Enough time to get the job done</i>	0.663** 0.640–0.676	1.016 0.879–1.174
<i>Job requires working fast</i>	0.977 0.948–1.007	1.032 0.898–1.185
<i>Job is free of conflicting demands</i>	0.766** 0.683–0.860	0.837 0.721–0.971
Panel B. Effects for Job Control (Skill Discretion)		
Job Characteristics	Unemployment	GDP
<i>Job requires learning new things</i>	1.178** 1.129–1.230	1.497*** 1.295–1.730
<i>Do a number of different things on job</i>	1.616*** 1.373–1.904	1.395** 1.157–1.682
Panel C. Effects for Job Control (Decision Authority)		
Job Characteristics	Unemployment	GDP
<i>Have freedom to decide how to do work</i>	0.825** 0.795–0.836	1.086 0.940–1.255
<i>Have lot of say about what happens on job</i>	0.991 0.996–1.003	1.860*** 1.572–2.200

\*\* $p \leq 0.01$ ; \*\*\* $p \leq 0.001$

investments and propensity to report fast work. However, the odds ratio was only slightly elevated (OR = 1.005), indicating this effect was very modest.

Finally, it was interesting to see that measures of both skill discretion (new learning, doing a variety of things) and decision authority (but only for the “lot to say” measure) were positively associated with GDP. In the absence of work overload, such changes may portend reduced risk for stress in an expanding economy.

### Some Final Thoughts

It is important to note that our findings and interpretations are subject to the limitations of our methods, perhaps most notably that we were able to sample relatively few periods of economic activity. However, within these limitations, our findings seem to agree with earlier evidence suggesting that job stress risks are elevated during a declining economy, and that working conditions may be less stressful during periods of economic growth.<sup>11</sup> This pattern of effects has important implications for employers. Beyond the health risks to workers, there is clear evidence that stress poses important risks to the health of organizations. Not only is stress at work associated with increased absenteeism, presenteeism, worker disengagement, and turnover intention, stress adds substantially to the already burdensome health care costs borne by organizations. Research has found, for example, an increase of nearly 50 percent in health care utilization costs for workers reporting high levels of stress.<sup>12</sup> In a period of economic downturn, when the profitability, if not survivability, of organizations is already threatened, it might be questionable whether organizations can withstand the added burden created by increases in stressful working conditions during these periods. Recognition of increased stress risks during economic downturns can enable organizations to take preemptive action during this susceptible period.

Deeper investigation of the relationships under study here is continuing at NIOSH. To learn more about this work and other NIOSH research on economic aspects of worker health and safety, visit the websites highlighting research of the economics research program and the stress research program at NIOSH.<sup>13</sup>

### NOTES

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### Tapas K. Ray

*Tapas K. Ray plays a leading role as an Economist with the US National Institute of Occupational Safety and Health, Centers for Disease Control and Prevention. His work encompasses a variety of innovative approaches toward application of economics to the field of worker safety and health. Prior to joining CDC as a Prevention Effectiveness Fellow, he worked in the field of Environmental and Regulatory Economics. He has published in both the fields of environmental and health economics.*

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### Steven L. Sauter

*Steven L. Sauter is a consultant to the National Institute for Occupational Safety and Health (NIOSH), where he formerly served as Coordinator of the NIOSH Research Program on Work Organization and Stress-related Disorders. He is a Fellow of the European Academy of Occupational Health Psychology and holds editorial positions on several scholarly journals, including Associate Editor of the Journal of Occupational Health Psychology.*