

Research Department
Federal Reserve
Bank of
San Francisco

November 5, 1976

Dangerous Work

A book published a couple of years back carried the title "Work is Dangerous to Your Health." It was neither an attack on the American work ethic nor an entreaty to drop out of mainstream society. It was rather an explanation by a physician and a physical chemist of the various ways in which the modern workplace can kill, maim or otherwise impair the health of American workers.

The Bureau of Labor Statistics recently noted that occupational injury or illness affects one out of every ten workers at one time or another during their lives. The incidence of injury or illness varies significantly with both industry and firm size. The best advice is to become a broker and not a hod carrier; the number of cases per 100 workers ranges from 2.4 in the finance-insurance-real estate sector to 18.3 in contract construction. Also, stay out of medium-sized plants; the safest plants are generally those employing less than 20 or more than 2,500 workers.

Measuring the problem

Nonetheless, statisticians differ significantly about the extent of the problem. Estimates of the annual number of occupationally related deaths range from 5,900 (Bureau of Labor Statistics) to 100,000 (President's Report on Occupational Safety and Health). This dramatic difference shows the difficulty of identifying just what we mean by occupational illness.

The BLS number is based upon a survey of employers and includes only what they report as occupationally related deaths. However, because of long incubation periods for many industrial illnesses and the great mobility of the labor force, the relationship between job and illness is often tenuous. Coal had been mined for more than 200 years in this country before pneumoconiosis (black lung) was officially recognized. The asbestos industry was a good 40 years old before it was realized that asbestos fibers can become imbedded in the lungs and cause lung cancer. Only in 1974 did angiosarcoma (a rare liver cancer) begin to appear among workers exposed to vinyl chloride—the cornerstone of the 65-year-old plastics industry. And just this year, potential genetic damage was traced to chloroprene, an important ingredient in synthetic rubber since the 1930's.

The basic problem is neither the maliciousness of employers nor the carelessness of workers. Rather, it is a case of medical ignorance accompanied by a lack of market incentive to enlightenment. When a new product is developed, such as asbestos or vinyl chloride, employers are chiefly concerned with meeting the new public demand, while workers are mainly concerned with moving either from unemployment or low-paid work to the higher-paid jobs in the growing industry. Individual workers have neither the training nor resources to test new

Research Department Federal Reserve Bank of San Francisco

Opinions expressed in this newsletter do not necessarily reflect the views of the management of the Federal Reserve Bank of San Francisco, nor of the Board of Governors of the Federal Reserve System.

substances for their effect on human health. Employers also have little economic incentive to do so, since testing is costly both in terms of actual expenditures and the opportunity costs associated with production delays.

Liability and legislation

During the nineteenth century a worker's health and safety was generally considered to be his own responsibility, based upon several common-law principles. One governing principle, consistent with a free-market determination of wages and working conditions, held that when a worker accepts a job he also accepts any risks associated with it. But by the early twentieth century the concept of employer liability emerged in the form of workmen's compensation legislation. These laws created, on the part of the employer, an incentive for accident prevention.

With these laws in place and with growing attention paid to the costs of accidents, work-injury rates in manufacturing declined by almost half between 1926 and the beginning of World War II. Injury rates fluctuated considerably thereafter, falling during peacetime but rising during war periods such as World War II and the Vietnam conflict, as a reflection of the wartime intensification of economic activity and the mass entry of inexperienced workers into the workforce. Indeed, by 1970 work injuries were occurring

at rates similar to those of the late 1930's, and this situation plus the growing attention to occupationally induced diseases led to demands for a more effective approach. The result was the Occupational Safety and Health Act of 1970.

Living with OSHA

The Act established the Occupational Safety and Health Administration in order to improve working conditions through the creation and enforcement of health and safety standards. Labor leaders have criticized OSHA for being understaffed and ineffective, and industry leaders have criticized it for adopting unnecessarily stringent standards and sending unqualified inspectors into the field. Such battle lines are inevitable in what is often a zero-sum game.

New legislative demands arose during the early 1970's, sparked by lack of satisfaction with OSHA's effectiveness—it has established standards for only a handful of the 30,000 substances now on the market—and by the recent headline stories about kepone and PCB's (polychlorinated biphenyls). The result was the Toxic Substances Control Act, which was signed by the President last month. The Act requires manufacturers to notify the Environmental Protection Agency 90 days before a chemical is produced or put to a new significant use. The Toxic Substances Control Office (within EPA) has the task of reviewing notification forms

for 50 to 1,500 newly developed chemicals each year and determining which require testing. The bill nonetheless was watered down from its original wording. For example, one deleted section of the bill would have required pre-market testing of all substances, which chemical firms claim could cost \$100 to \$200 million annually and slow down the introduction of new improved products.

How safe? How healthy?

An assessment of the new Toxic Substances Control Act—along with its companions, the Environmental Protection Act and the Occupational Safety and Health Act—really involves two questions. First, to what extent do we want to take our productivity gains in the form of a cleaner environment and a healthier workplace, as opposed to higher incomes? To the extent that the market process fails to translate individual preferences on this trade-off into a socially desirable resolution, the political process becomes the appropriate arena for decision.

But can the market work in these cases? We know that environmental damage is external to the price system and requires a collective solution, but the situation is not the same for workplace hazards. When workers accept employment they accept a certain wage and a certain set of working conditions, including a level of risk of injury or disease. If the worker were aware of

another job with a better package of wage plus job conditions, then he could move to that job. Theoretically, for any given skill level, compensating wage premiums would emerge for jobs with less desirable working conditions. However, even in theory, the worker would not be able to take advantage of those compensating wage premiums if he were not aware of the various health risks involved. So, while workplace hazards are not externalities like environmental hazards, the market still does not reduce them to an optimal level—nor compensate for them in an optimal fashion—if workers are not fully aware of their presence.

But just because a healthier workplace is a good thing does not mean that every attempt to achieve that goal is an equally good thing. That brings up our second question—are our present efforts to produce a healthy workplace (and a clean environment)—actually efficient? That is, are the net benefits created by legislation both positive and greater than those which could be created by alternative methods? It's still too early to tell, although we should continue to press for an answer from the people who make health and safety decisions. The real payoff may be 20 years down the road, with the reduction in occupationally related health problems as a result of today's research and standard-setting in the field of toxic substances and workplace design.

Michael Gorham

Research Department
Federal Reserve
Bank of
San Francisco
Alaska • Nevada • Oregon • Utah • Washington
Idaho • Arizona • California • Hawaii

BANKING DATA—TWELFTH FEDERAL RESERVE DISTRICT

(Dollar amounts in millions)

Selected Assets and Liabilities Large Commercial Banks	Amount Outstanding 10/20/76	Change from 10/13/76	Change from year ago	
			Dollar	Percent
Loans (gross, adjusted) and investments*	90,212	+ 616	+ 4,274	+ 4.97
Loans (gross, adjusted)—total	68,816	+ 351	+ 4,550	+ 7.08
Security loans	1,588	+ 14	+ 727	+ 84.44
Commercial and industrial	22,356	+ 170	- 392	- 1.72
Real estate	20,901	+ 53	+ 1,249	+ 6.36
Consumer instalment	11,553	+ 23	+ 1,273	+ 12.38
U.S. Treasury securities	8,758	+ 118	+ 7	+ 0.08
Other securities	12,638	+ 147	- 283	- 2.19
Deposits (less cash items)—total*	90,068	- 870	+ 3,497	+ 4.04
Demand deposits (adjusted)	25,809	- 923	+ 2,088	+ 8.80
U.S. Government deposits	446	+ 136	+ 58	+ 14.95
Time deposits—total*	62,364	+ 30	+ 1,564	+ 2.57
States and political subdivisions	5,067	- 22	- 747	- 12.85
Savings deposits	28,224	+ 268	+ 6,888	+ 32.28
Other time deposits‡	26,745	- 140	- 3,349	- 11.13
Large negotiable CD's	10,814	- 238	- 5,062	- 31.88
Weekly Averages of Daily Figures	Week ended 10/20/76	Week ended 10/13/76	Comparable year-ago period	
Member Bank Reserve Position				
Excess Reserves	- 37	+ 18	+ 18	
Borrowings	1	0	7	
Net free(+)/Net borrowed (-)	- 38	+ 18	+ 11	
Federal Funds—Seven Large Banks				
Interbank Federal fund transactions				
Net purchases (+)/Net sales (-)	+ 12	+ 424	+ 1,029	
Transactions of U.S. security dealers				
Net loans (+)/Net borrowings (-)	+ 114	+ 1,164	+ 354	

*Includes items not shown separately. ‡Individuals, partnerships and corporations.

Editorial comments may be addressed to the editor (William Burke) or to the author. . . .
Information on this and other publications can be obtained by calling or writing the Public
Information Section, Federal Reserve Bank of San Francisco, P.O. Box 7702, San Francisco 94120.
Phone (415) 544-2184.