New Directions.
Rising Inequality and the Relationship Between Economic Conditions and Stress

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Over the last two decades, there have been pervasive increases in earnings and family income inequality across the population, and within and between educational classes and occupational categories. In such an economic environment, traditional measures of socioeconomic status have become less reliable in explaining physical and mental health outcomes affected by economic distress. This paper documents the extent of the increased inequality and derives its implications for the hypotheses proposed in the chapters by Link and Phelan and Catalano.

Link and Phelan emphasize the importance of poverty and other forms of inequality in sociall class as "the fundamental cause" of health outcomes. They focus on explaining persistent class inequalities in health, thereby limiting the explanatory contribution of individual behavior to risk avoidance. The possibility of important independent forms of behavioral risk avoidance, presumably rooted in other aspects of social position, is noted but remains for others to conceptualize and examine. Catalano sets out several hypotheses linking economic contractions to psychological disorder. The fact that inequality has increased during both economic expansions and contractions over the past two decades, however, suggests that other mechanisms may also be generating psychological disorder.

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Several chapters in this volume examine the relationship between socioeconomic status (SES) or unemployment and health or mental health outcomes. This paper suggests that recent changes in economic conditions in the labor market-- slow real wage growth and rising inequality both between and within labor-market subgroups-- may have rendered the traditional SES measure and the unemployment rate less reliable indicators of economic hardship than they were in the past. This hypothesis leads me to question the findings of empirical studies that use the traditional measures of these concepts. For example, a study may find that the relationship between the unemployment rate and some health or mental health outcome has diminished or that SES now has less explanatory power in predicting such outcomes. If these measures have become increasingly "noisy" because of rising inequality, as I suggest below, then the underlying relationship between economic hardship and these outcomes may not have changed at all. Rather, the relationship only *appears* to have changed because the indicators are less able to predict which individuals are actually experiencing economic distress. If this hypothesis is correct, researchers should use economic measures that reflect not only changes in the means of the relevant economic variables, but also changes in their variances.

- For the past 25 years, and particularly since the late 1970s, rising inequality has become a pervasive feature of the American economy. Differentials in economic status have widened both between groups and within groups. For example, the differences in earnings between blue collar- and white collar- workers is now much greater than it was 25 years ago. Because earnings inequality has increased among workers in most occupations, the numbers of downwardly mobile workers are increasing in almost every labor force group. Both of these dimensions of rising inequality are ignored by an occupational status index that maintains a constant status differential between occupational classes and treats all workers in a given occupation as equally well off.

○ Increased inequality requires that additional SES measures be included in models of the relationship between economic conditions and stress. But it also suggests some alternative hypotheses to be investigated. Downwardly mobile white collar workers may now be more likely to experience the effects of stress than blue-collar workers whose income and employment conditions have been stable. Blue-collar workers, who have always faced a significant probability of being laid off, may be less stressed by an increased probability of being laid off due to a plant closing or restructuring than white-collar workers in the same firm who had expected that their education and occupational position would protect them from economic uncertainties. In today's labor market, workers in most industries and occupations have been affected by economic downturns, corporate restructurings, or falling real wages.

From "Rising Tides" to "Uneven Tides"

The past 25 years have been characterized by economic distress for increasing numbers of workers, regardless of their education or occupation. Real earnings have grown very little during this period, and the gains from growth have been uneven. In the quarter century following World War II, "a rising tide lifted all boats." The earnings of the most-advantaged and the least-advantaged workers-- all--increased at similar rates, roughly doubling in real terms. If some earners benefited more than others, they tended to be those who had started at a greater disadvantage, such as racial and ethnic minorities and those with the least education.

- The experience of the past 25 years has been dramatically different. The current generation of workers lacks the economic security of the generation that came of age during the postwar economic boom. Many workers earn lower wages in real terms than workers in similar jobs earned in the early 1970s, and a smaller percentage of jobs now provide health insurance and private pensions. The tides of economic growth have diminished and become uneven; these "uneven" tides do not lift all boats. Rather they have lifted the real earnings of the most advantaged workers, but diminished those of the least-advantaged.[2]

- Economic hardship has become widespread. While white-collar workers have fared better on average than blue-collar workers, and married-couple families better than mother-only families, many white-collar workers and many workers in married-couple families were also laid off or experienced lower real earnings.

[2] For elaboration, see Danziger&Gottschalk,1993,1995.

- Not even the most educated workers were spared. The average college graduate still earns substantially more than less educated workers, and the gap between college graduates and less educated workers has increased dramatically. Nonetheless, a degree no longer guarantees a good salary. In 1991, among 25- to 34- year old college graduates (with no post-college degrees), 16 percent of men and 26 percent of women worked at some time during the year but earned less than the poverty line for a family of four persons ($13,924). The comparable figures for high school graduates were 30 percent for men and 57 percent for women.

Powerful economic forces have transformed the labor market, diminished the economic prospects of millions of workers, and caused rising hardship. Younger workers, blue-collar workers, and workers without college degrees have all fared badly as employers have hired more workers with more education, in spite of their higher costs, and fewer less educated workers even though the wages they would have had to pay them declined. Economists have identified many factors that have contributed to slow wage growth and rising inequality: A shrinking percentage of the workforce belongs to unions; jobs shifted away from manufacturing; global competition has increased and the import and export sectors have consequently expanded. The introduction and widespread use of computers and other technological innovations were particularly important, increasing the demand for skilled personnel who could run more sophisticated equipment. Simultaneously, demand for less skilled workers declined, as such workers were displaced by automation or had to compete with lower-paid foreign workers who were producing the new imports.

In the economic boom that began in the late 1940s, the percentage of high school graduates with low earnings dropped precipitously for white non-Hispanics, black non-Hispanics, and Hispanics . Among whites in 1949, for example, 33.9 percent of these young men had earnings below the poverty line, but by 1969, as real earnings and living standards increased dramatically, the low earnings rate fell to 8.6 percent.

- Since the early 1970s, however, overall economic growth has slowed, the real earnings of high school graduates have declined, and the proportion of workers with low earnings has risen. *By 1991, the low earnings rate for whites was 29.5 percent*, *a rate similar to that of the 1950s*. The *1991 rate of low earnings for 25- to 34- year old white college graduates-- 16.8 percent-- was about the same as the 1959 rate for white high school graduates.*

- This pattern of rapidly falling and then rapidly rising rates of low earnings for male high school graduates is also evident for young blacks and Hispanics. *The low earnings rate for black high school graduates rose from 19.9 to 52.6 percent between 1969 and 1991*, *and for Hispanics from 15.6 to 47.1 p*ercent. *The 1991 low earnings rates for 25- to 34- year old black and Hispanic college graduates (24.7 and 32.2 percent, respectively), were higher than the 1969 rates for young minority high school graduates.*

If men who cannot support a family of four at the poverty line represent those who are most at risk for economic stresses, then these trends suggest an increasing risk for physical and mental health problems that would not be reflected in measures of central tendency, such as the level of mean earnings, an occupational index, or the unemployment rate.

Changes in earnings and occupation reveal the increased inequality within and between occupational groups, which would not be captured by a traditional SES index.(Data available from author)

- Between 1979 and 1989, the level and distribution of labor market outcomes changed for men between the ages of 25 and 54. Yet, in each year, the unemployment rate was similar (5.8 percent in 1979 and 5.3 percent in 1989), as were the mean earnings for all men ($29,345 in 1979 and $29,116 in 1989). Despite the stability of these traditional indicators of economic conditions, inequality increased substantially.

- The percentage earning less than the poverty line for a family of four increased from 19.6 to 24.1 percent for all men, and the rate increased for each of six major occupational groups shown (the only group with a negligible increase was the highest status group, managerial and professional workers). This measure of economic hardship increased the most for the least skilled men, and the gap between the most skilled and all the other occupations widened. For example, in 1979, a man in a technical, sales or administrative support occupation was 1.46 times as likely to be a low earner as a managerial or professional worker; a laborer or production worker was 2.25 times as likely. By 1989, discrepancies between workers in these occupations and managerial or professional workers were larger-- they were, respectively, 1.74 and 3.02 times as likely to be low earners.

- *Only workers in the two highest-earnings occupations experienced any wage growth over the decade*, *the only meaningful increase was among managerial and professional workers*. *Earnings losses were greatest for blue-collar workers*. In 1979, the annual average earnings of craft or precision worker were about 70 percent of what the average managerial or professional worker earned. By 1989, this ratio had fallen to 57 percent, as the mean real wages of the former group declined by about 10 percent at the same time that the mean of the latter group increased by about 10 percent.

- Earnings inequality increased substantially for all workers and for workers in 5 of the 6 occupational categories . *Thus, inequality increased both within and between occupations* and within and between educational categories .

- *Inequalities also increased among workers experiencing unemployment* . Between 1979 and 1989, the percentage of men, between the ages of 25 and 54 and working less than 52 weeks during the year, whose earnings were below the poverty line for a family of four, increased from 31 to 39 percent. Among those experiencing unemployment, the duration of unemployment increased-- the percentage working fewer than 25 weeks during the year increased from 15 to 18 percent. In addition, the percentage of the unemployed who receive unemployment compensation benefits is growing smaller. *For most of the period from 1950 to 1980, about half of the unemployed received benefits; by the mid-1980s, however, legislated changes in the unemployment insurance program and increases in the duration of unemployment reduced the fraction of the unemployed receiving benefits to only about one-third.* This suggests that unemployment causes greater economic hardship today than it did in the past.

- *For the same period, similar patterns are evident among white non-Hispanic, black non-Hispanic and Hispanic men* (data available from author). The economic status of minority men fell somewhat relative to that of white non-Hispanic men. In 1979, the mean annual earnings of black non-Hispanic men between the ages of 25 and 54 was about 60 percent of that of similar white non-Hispanic men; by 1989, they earned only about 58 percent as much. The relative earnings of Hispanic to white non-Hispanic men fell from 67 to 65 percent over the decade.

- *The share of low earners rose by 4.5 percentage points for all men between the ages of 25 and 54*, by 3.9 points for white men, 4.9 points for black men, and *8.3 points for Hispanic men*. *The coefficient of variation squared among all men rose from 0.582 to 0.925 between 1979 and 1989*; it rose from 0.532 to 0.838 for white men, from 0.708 to 1.144 for black men, and *from 0.687 to 1.255 for Hispanic men.*

To summarize, pervasive increases in inequality within and between educational classes, within and between occupational categories, and within and between the unemployed have taken place. In such an economic environment, it seems likely that traditional measures of SES and the unemployment rate have become less reliable in explaining physical and mental health outcomes that are affected by economic stress.[3]

[3] Since 1973, slow growth and rising inequality in the labor market have affected most workers, particularly the young and those without a college degree. During this period, the economic status of the elderly rose relative to that of the non-elderly primarily because of Social Security benefits that were indexed in real terms. In 1973, the median income, adjusted for family size, of persons living in households whose head was elderly was 70 percent of that of the median adjusted income for all persons; by 1991 this had increased to 85 percent. Over the same period, the poverty rate of the elderly dropped below that of the population as whole. For further discussion, see America

Fundamental Social Causes and Health

Poverty and economic hardship are more extensive in America than they are in other advanced industrialized societies with similar standards of living. This situation is attributable primarily to two factors--the American labor market generates more poverty and inequality than these other labor markets and the American welfare state is less extensive than those elsewhere. Thus, any student of American poverty can subscribe to a weak interpretation of Link and Phelan's (1996) hypothesis that "because social and economic resources can be used in different ways in different situations, fundamental causes have effects on disease even when the profile of risk factors changes radically" or that "no matter what the current profile of diseases and known risks happens to be, people are best positioned with regard to important social and economic resources will be less afflicted by disease."

Nonetheless, I object to Link and Phelan's focus on social class, power, prestige, social capital, etc. to the exclusion of several other important predictors of physical and mental health outcomes. As Link and Phelan themselves note, a reduction in these other risk factors can improve outcomes. Health outcomes would probably improve, for example, even if the current level of inequality remained constant, if a national health insurance plan were implemented that improved access to medical care. Even if inequalities in access remained, even if the rich received better care than the poor, some health or mental health outcomes would likely improve.

Changes in the infant mortality rates of the poor and disadvantaged as a result of the diffusion of neonatal intensive care units (NICUs) are a case in point. Given the increased inequality documented above and the increased percentage of the population that is not now covered by medical insurance, SES differentials in infant mortality would probably have increased in the absence of any changes in the delivery of medical services. Thus, from the perspective of Link and Phelan's approach, the constancy of the association between SES and infant mortality reflects the positive effect of NICUs being offset by the negative effect of rising inequality. Link and Phelan cite the constancy of this association to support their view that only changes in fundamental causes can improve outcomes. This example, however, does not necessarily demonstrate the superiority of

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a fundamental cause approach.

Link and Phelan minimize the importance of personal behaviors as an explanation for the persistent association (the gradient) between SES and health outcomes. As such they do not think that social inequalities in health can, in the long run, be explained by personal behaviors or effectively addressed by intervening to change those personal behaviors. Link and Phelan are in complete agreement with those who believe that efforts to encourage people to adopt healthier personal habits can improve the health of populations. But because SES and other fundamental causes will determine who is able to adopt those healthier habits, such efforts will have little long run impact on social inequalities in health (the gradient) and many even make the gradient more pronounced. For example, consider a health education campaign that changes behaviors and leads to a large decline in the incidence of some health problem. I would emphasize that the behavioral change has reduced the extent of the problem. Link and Phelan are pointing out that the decline of the problem among the elite would probably be greater than that among the poor, and consequently that the SES-health outcome gradient had become steeper.

They are correct when they point out that AIDS will likely become a significant contributor to SES differentials in mortality …"due to the rapid spread of infection in low income areas." However, the spread of AIDS is also related to risky behaviors, independent of SES. Countries with strict regulation of non-marital sexual activity and little tolerance for intravenous drug use are likely to have a low incidence of AIDS because of differences in these personal behaviors, even if their per capita incomes are very low and their inequality is very high. The spread of AIDS can be reduced by behavioral changes, even if SES remains constant.

In other words, it is better if individuals at risk have both more cash (context matters) and more information (behavior matters). But, holding one constant, more of the other is still a good thing. Indeed, there may be a positive interaction between those two fundamental causes, so that providing more of one induces a change that yields more of the other--- that is, changes in SES can affect behavior and vice versa.

A change in economic conditions-- a return to a period of rapid economic growth and falling poverty rates-- or a change in public policies that alleviated poverty and the dreadful living conditions in the poorest neighborhoods might lead individuals to adapt their behaviors in a way that would promote healthier outcomes (e.g., these structural changes might lead to reductions in substance abuse and violence, strengthen social networks, and increase social support within families, etc.). At the same time, however, changes in these personal behaviors can be encouraged (e.g., through more effective schools that increase motivation and self-esteem as well as academic abilities, or through public education campaigns, mentoring programs, and activities to rebuild social capital in poor communities), which would promote healthier outcomes, even if overall economic conditions did not dramatically improve. However, such behavioral changes might also raise SES by leading to higher educational attainment, lower unemployment, and so on.

Even if Link and Phelan have not convinced me that reducing poverty and other inequalities are the only ways to promote healthier outcomes over the long term, I certainly endorse their conclusion that a reduction in poverty and other forms of inequality would lead to significant improvements in physical and mental health.

Economic Contractions and Psychiatric Disorders

Catalano's chapter reviews three hypotheses that link economic contractions to psychological disorder. According to the conventional view-- the provocation hypothesis-- the increased hardships associated with economic contractions increase the incidence of undesirable life events, which in turn increases the risk of disorder. This hypothesis is consistent with the results of the preventive intervention with the unemployed that has been developed and evaluated by Richard Price and his colleagues at the Michigan Prevention Research Center. According to Catalano's model, economic contractions increase financial and family stress and increase the probability of disorder. Catalano reviews a number of studies that document the provocation effect by showing that workers who experience job loss are at higher risk for problems such as depression, alcohol abuse, and violence.

The second mechanism, labeled the inhibition hypothesis, suggests that a "contracting economy reduces the incidence of alcohol abuse and violent behavior among persons who remain employed." This hypothesis implicitly critiques Link and Phelan's dichotomy between context and behavior, claiming that the heightened risk of job loss induces behavioral changes among workers who want to be as productive as possible to reduce the probability of losing their jobs.

This mechanism seems theoretically plausible but empirically unimportant. Today, whole divisions and plants are closed when corporations restructure, retool, or diversify overseas, eliminating the workers' ability to change their behavior and avoid job loss. Also the mechanism seems to apply most often in small, non-unionized firms, where the employer can selectively lay off her/his least-productive workers. In such cases, employers must know the capabilities of individual workers and have the flexibility to lay off workers using these criteria. This situation seems at odds with practice in unionized firms that rely on seniority rules to determine who is to be laid off.

Many large firms, however, perhaps for morale purposes, follow a different model. They offer severance packages for voluntary terminations and early retirements to large classes of workers. Often the most productive workers (those who can find an acceptable alternative job) are the ones who accept their offers. Workers who remain employed avoid being laid off not because they have changed their behavior, but because a sufficient number of their colleagues accepted the severance package.

Catalano neglects a potential effect of economic contractions on a worker's mental health. Consider the case of workers who expect that the firm will be restructured or will have to reduce employment for other reasons. The workers decide that to protect their jobs, they must control their drinking and violent tendencies. This is Catalano's inhibition effect. It strikes me as equally plausible, however, that the same workers are also subject to the provocation hypothesis. Having come to expect that their risk of being laid off has increased, they become more anxious, fearful, or depressed about their future with the firm. As a result, these mental health changes lead them to drinking more and losing emotional control. This potential reaction is ruled out by Catalano, who writes that the provocation hypothesis applies to persons who have lost jobs while the inhibition hypothesis applies to persons who remain employed.

Catalano discusses the provocation and inhibition effects as if they can be separately measured at the level of the macro-economy. Even if they can, I am skeptical that one could document them at the micro-level if they both are operative for workers who remain employed but fear layoffs.

The third mechanism, the uncovering hypothesis seems the least plausible. It postulates that a "contracting economy increases the fraction of the chronically ill that is in treatment." Two opposing possibilities can be embodied within this mechanism, rendering such a clear prediction doubtful. First, during economic contractions the percentage of workers who have health insurance coverage declines. This might occur not only among the unemployed, but also among the employed as some companies reduce spending on health insurance as an alternative to layoffs. If this is the case, then fewer people would be able to afford treatment.

On the other hand, a situation consistent with Catalano's view would occur if workers who were going to be laid-off attempted to get themselves classified as disabled, rather than as unemployed. Because disability benefits tend to be more generous than unemployment compensation, a laid-off worker with a hidden drinking problem would have an incentive to get reclassified as an alcoholic. The incentive operates in the same direction for the employer, who incurs increased unemployment insurance taxes for increased layoffs, but not for increased numbers of workers claiming social security disability benefits.

My hypothesis about increasing inequality, viewed from the perspective of Catalano's chapter, suggests that at any given unemployment rate today, the rate of psychological disorder ought to be higher than it was 2 decades ago at the same unemployment rate. The continuing restructuring and merging of firms, the continuing adoption of new technologies, and the continuing globalization of markets have all increased the risk of layoff for workers in most occupations, white-collar as well as blue-collar workers, at every unemployment rate. Catalano, citing Fenwick and Taussig (1994), notes that stress increases when the nature of work changes. While that part of his chapter refers to changes in the nature of work due to contractions, I suggest that the social contract between firms and workers has been changing during both recessions and expansions for the past 2 decades, implying a secular increase in the incidence of disorder.

Catalano concludes by specifying an interesting model that conceptually distinguishes the three independent mechanisms. However, it is quite difficult to parameterize this model because one key variable is the "degree to which lay offs exceed expected values." In addition, it assumes that fear of layoff affects only the "population that remains working and has either current or past disorder or is prone to disorder." If fear of layoff leads currently healthy workers to become prone to disorder or to experience a disorder, then the model's predictions will not follow. While this is a testable assumption, there is no evidence to date that Catalano has estimated the model.

While Catalano derives his policy discussion from the model in a way that assumes that the inhibition and uncovering effects are important, the policies he discusses are relevant even if they are much less important than the provocation effect. If the economy could be transformed so that economic growth were more rapid, or if the gains from growth were more equally shared, or if additional public resources were devoted to alleviating economic distresses, some psychological distress would be prevented. And, if additional public resources were devoted to treating the psychologically distressed, then the extent of distress would be reduced. Unfortunately, there is nothing in the economic changes of the past two decades, or in the public policy changes that have been implemented in recent years, to make me optimistic about significant reductions in either economic hardship or psychological distress in the coming years.

Both the chapters reviewed emphasize the important effects of rising economic inequality on physical and mental health outcomes. While I have raised some questions about the chapters, I want the authors to continue their research in this area. The development of empirical models to test their hypotheses can reveal whether the negative effects of rising inequality have been as pervasive as I expect.

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