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Job Loss in the Great Recession

In **Job Loss in the Great Recession: Historical Perspective from the Displaced Workers Survey, 1984–2010** (NBER Working Paper No. 17040), **Henry Farber** notes that the extent of unemployment, the difficulty in finding a new job, and lost earnings for the unemployed were all especially high during this downturn. "It is clear that the dynamics of unemployment in the Great Recession are fundamentally different from unemployment dynamics in earlier recessions," he writes.

For example, although unemployment rates in this most recent recession were similar to those of the severe downturn in the 1980s, the rate of job loss was much higher this time (16 percent versus less than 13 percent), according to Farber's analysis of the Bureau of Labor Statistics' Displaced Workers Surveys (DWS). As in the previous three recessions, less educated workers were more vulnerable to layoffs than more educated ones, but even those with college degrees have seen their vulnerability to layoffs increase

over time. Their job loss rate during 2007–9, at 11 percent, was at the highest level observed since the DWS data were first col-

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lected in the early 1980s. The mean duration of unemployment also hit a new high in the Great Recession: a seasonally adjusted 35 weeks versus about 20 weeks at the peak of each of the previous three downturns.

Furthermore, fewer than half of those who lost a job during the recent recession were employed as of 2010 — a significantly lower rate of reemployment than in the recoveries from the three previous recessions. Female job losers were less likely to be employed and more likely to have left the labor force than males who lost a job. Older job losers (those 55–64 years old) used to be much more likely than younger job losers to move out of the labor force, but that gap has narrowed in recent years. The most recent downturn

was so severe that no group escaped its effects. "[T]he reemployment experience of job losers is substantially worse for those who lost jobs in the Great Recession than in any earlier period in the last thirty years," Farber writes.

Workers' earnings also have taken a hit. Those who were reemployed after losing a job during the Great Recession, on average, earned 17.5 percent less per week than in their old jobs. That was the largest decline since 1984. Among those who lost full-time jobs, the negative impact was even greater: they were earning 21.8 percent less. One reason for that larger loss is the move of many full-time job losers to part-time work. Of those who lost a full-time job and were reemployed, about one in five held a part-time job. Even among those who lost full-time jobs and found new full-time jobs, the overall loss in

weekly earnings (including earnings increases they would have earned had they kept their original jobs) was about 11 percent. However, this is not high when compared with the decline in previous recessions.

As grim as these earnings data are, the DWS data probably paint too rosy a picture overall, Farber warns. "First, time spent unemployed by those workers who are re-employed is not considered. Second, more hinges on employment, particularly full-time employment, in the U.S. than in other developed countries. Health insurance and pensions are closely linked to employment, and many workers do not have alternative access to these important benefits. This makes job loss an expensive and damaging event on average."

— Laurent Belsie

Bank Performance in 1998 Explains Performance during the Recent Crisis

When Russia defaulted on its debt in 1998, a number of investors worldwide experienced large losses. Many were forced to sell securities across markets, and as security prices fell, the capital of investors and financial firms was eroded. Further, market volatility increased. These developments taken together led investors and financial institutions to reduce their risk. Hedge funds were severely battered, and within two months the market capitalization of banks like CitiGroup and Chase Manhattan fell by approximately 50 percent.

The meltdown that started in 2007 has since replaced that of 1998 as "the biggest financial crisis of the last 50 years." In **This Time Is the Same: Using Bank Performance in 1998 to Explain Bank Performance During the Recent Financial Crisis** (NBER Working Paper No. 17038), authors **Rüdiger Fahlenbrach, Robert Prilmeier,** and **René Stulz** demonstrate that U.S. banks that performed poorly during the 1998 financial crisis did so again during the most recent financial crisis, even if the banks underwent mergers or were under new leadership.

They explain that the "learning hypothesis" holds that a bad

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experience in a crisis leads a bank to change its risk culture, to modify its business model, or to decrease its risk appetite so that it is less likely to face such an experience again. The "business model hypothesis" says that the bank's susceptibility to crises is instead the result of its business model, and that it does not change its business model (or culture) as a result of a crisis, perhaps because it is too costly to do so, or for other reasons. Fahlenbrach, Prilmeier, and Stulz test these two hypotheses against the alternative view that every crisis is unique, meaning that a bank's past crisis experience does not offer information about its experience in a future crisis.

Examining data on some 347 banks, they find support for the business model hypothesis, in that the stock market performance of a bank in the recent crisis is positively correlated with the performance of that same bank in the 1998 crisis. Their key result is that for each percentage point of equity value lost in 1998, a bank lost an annualized 66 basis points of equity value during the financial crisis from July 2007 to December 2008.

When the authors relate the performance of banks during the recent financial crisis to their performance in 1998, as well as their characteristics in 2006, they find that the banks' 1998 return retains its explanatory power. The return of banks in 1998 does as well in explaining their return during the recent financial crisis as the bank's leverage at the start of the crisis. The effect of bank performance in 1998 on the probability of failure is similarly strong. A single standard deviation lower return during the 1998 crisis is associated with a statistically significant

5-percentage-points higher probability of failure during the credit crisis of 2007–8. These results cannot be explained by differences in the exposure of banks to the stock market.

Fahlenbrach, Prilmeier, and Stulz caution that by their very nature, crises are unexpected. "We cannot exclude that banks learned from 1998 and chose to take less risk on the asset side," they write, "but as they invested in less risky assets, those assets turned out to perform unexpectedly poorly in the recent crisis. There is no good way to assess comprehensively the ex ante risk of the assets banks invest in, so that there is no good way to exclude the possibility that banks that suffered more from 1998 chose to invest more safely. However, our evidence shows that the banks that performed poorly in both crises had more risky funding, higher leverage, and greater growth than other banks before the crises. Hence, our evidence does suggest that banks did not change fundamental aspects of their business strategy as a result of their performance in the 1998 crisis."

— Matt Nesvisky

The Impact of Ozone Pollution on Worker Productivity

Ozone pollution is a pervasive environmental issue throughout much of the world. Debates over the optimal level of ozone have been ongoing for many years, and current efforts to strengthen environmental regulations affecting ozone concentrations remain contentious. Defining regulatory thresholds depends, in part, on the benefits associated with avoided exposure, which traditionally have been estimated through a focus on high-visibility health effects, such as hospitalizations and mortality.

In **The Impact of Pollution on Worker Productivity** (NBER Working Paper No. 17004), authors **Joshua Graff Zivin** and **Matthew Neidell** instead ask whether reductions in ambient ozone concentrations can add to human capital and therefore enhance productivity. Using data on the productivity of agricultural workers, along with information about environmental conditions that come from the California air monitoring network, they analyze the relationship between ozone concentrations during the typical workday and farm worker productivity. They find that variation in ozone concentrations at levels well below federal air quality standards have a significant impact on productivity. Their central estimate suggests that a 10 ppb (parts per billion) decrease in ozone concentration increases worker productivity by 4.2 percent.

This environmental productivity effect suggests that characterizing environmental protection as purely a tax on producers and consumers, to be weighed against the consumption benefits associated with improved environmental quality, may ignore potentially important effects of such policies on human capital. The labor productivity impacts estimated in this paper can help to make these benefit calculations more complete. They indicate that higher ozone concentrations, even at levels below current air quality standards in most of the world, have significant negative effects on worker productivity.

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ity. This finding suggests a source of potential economic benefits from strengthening regulations on ozone pollution; these benefits of course need to be compared with other costs and benefits.

The impact of ozone on agricultural workers is also important in its own right. A quick estimate suggests that a 10 ppb reduction in the ozone standard would translate into an annual cost saving of approximately $1.1 billion in labor expenditure. In the developing world, where national incomes depend heavily on agriculture, such productivity effects are likely to have a large impact on the economy. These effects may be especially large in countries like India, China, and Mexico, where rapid industrial

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growth and automobile penetration contribute to high levels of ozone pollution.

Whether the findings in this paper can be generalized to other pollutants and industries is unclear, according to the authors, but worthy of investigation. For example, agricultural workers face considerably higher levels of exposure to pollution than individuals who work indoors. Still, roughly 11.8 percent of the U.S. labor force works in an industry with regular exposure to outdoor conditions, and this figure is much higher for the middle- and lower-income countries.

— Lester Picker

Limited Attention in the Car Market

People often use simple cognitive shortcuts when processing information, which leads to systematic biases in their decision making. These biases can persist in and affect the functioning of markets that are highly competitive, even those involving high-stakes goods, sophisticated players, and elaborate decision processes. In **Heuristic Thinking and Limited Attention in the Car Market** (NBER Working Paper No. 17030), authors **Nicola Lacetera, Devin Pope,** and **Justin Sydnor** focus on the used car market and ask whether it is affected by consumers exhibiting a heuristic, or short cut, known as left-digit bias: the tendency to focus on the leftmost digit of a number while partially ignoring other digits.

Using data that come from wholesale auctions encompassing more than 22 million used car transactions, the authors document significant price drops at each 10,000-mile threshold from 10,000 to 100,000 miles, ranging from about $150 to $200. For example, cars with odometer values between 79,900 and 79,999 miles, on aver-

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age, are sold for approximately $210 more than cars with odometer values between 80,000 and 80,100 miles, but for only $10 less than cars with odometer readings between 79,800 and 79,899. The authors also find price drops at 1,000-mile thresholds, but these changes are smaller.

This apparent left-digit bias not only influences wholesale prices but also affects supply decisions. If sellers are savvy and are aware of these effects, then they will have an incentive to bring cars to auction before the vehicle's mileage crosses a

threshold. Indeed, the authors show that there are large volume spikes in cars before 10,000-mile thresholds.

The authors discuss whether the effects they find are driven by the wholesale buyers and sellers or by the final customers. A range of evidence — including the volume patterns just described, the purchase patterns for experienced versus inexperienced dealers at the auctions, and data from an online retail used-car market — suggests that the price patterns described here reflect inattention primarily on the part of the final buyers of used cars, and not on the part of the agents who participate at the wholesale auctions.

— Lester Picker

How Finance, Trade, and Growth are Connected

Both financial liberalization and trade may affect economic growth. Expanding trade may have a direct effect on growth, as well as an indirect effect through the financial sector. These effects also may

vary with the stages of a country's development.

In **Historical Evidence on the Finance-Trade-Growth Nexus** (NBER Working Paper No. 17024), co-authors **Michael Bordo** and **Peter Rousseau** study the linkages between financial development, international trade, and long-run growth with a particular interest in the evolving role of trade in growth as financial systems emerge and mature. Using data from seventeen "Atlantic" economies between 1880 and 2004, they find that financial development is strongly linked to growth throughout the period, but that the link between trade and growth emerges primarily in the period after 1945.

Their findings do not imply that trade had no positive impact on growth before 1945. In fact, trade and openness had indirect effects on growth, operating through finance: trade was dynamically linked to financial development, which itself was dynamically linked to growth. Although finance and trade seemed to reinforce each other before 1930, that dynamic did not persist after the Second World War.

To explain this phenomenon, the authors look at what they call

"deeper" fundamentals, which encompass both the legal framework of a country and its political environment. The authors argue that a country's opening to trade spurs financial development, international integration, and growth by weakening the power of economic and political incumbencies that may block financial liberalization. Their results suggest that the component of financial development directly related to legal origin and the political environment is strongly correlated with growth throughout the 125-year sample, while the similar component of trade does not share such a persistent linkage. Therefore, financial development may be "primal" to growth.

Indeed, as trade barriers are lifted and economies opened, financial sectors surge to fund the wave

of new economic activity as economies transition from a state of lower growth to a new higher-growth environment. Once the transition is

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complete, however, the relationship between trade and finance increasingly comes through other factors that affect them both, rather than by mutually reinforcing effects. That might explain the weakening of the linkage between trade and finance after 1945.

In studying the rising impact of trade on growth in the post-World War II period, the authors posit the importance of such factors as the signing of the General Agreement on Tariffs and Trade — which led to the re-establishment and liberalization of trade channels severed during the World Wars — and to enhanced integration in Europe through the common market, as well as the gradual elimination of capital controls after 1973.

— Claire Brunel

The Consequences of Risk Adjustment in the Medicare Advantage Program

Since the 1980s, people eligible for Medicare have been able to choose between the regular fee-for-service plan, under which the federal government pays a set fee to health care providers for each service provided, and Medicare Advantage (MA), whereby the government pays private health plans a fee for each individual they enroll. Almost one

quarter of Medicare beneficiaries are currently enrolled in Medicare Advantage plans.

plan encourages plans to enroll low-cost people and to avoid high-cost ones. Because of this, the federal

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Paying the same amount for every person enrolled in a health

government historically overpaid for MA enrollees relative to their

costs in traditional Medicare. So, in 2004 the Medicare program began to adjust its payments to private plans for enrollees' health status. As a result, a plan would, for example, receive a higher "risk-adjusted" payment for a recipient with diabetes or heart disease than for an otherwise identical person without these conditions.

In **How Does Risk Selection Respond to Risk Adjustment? Evidence for the Medicare Advantage Program** (NBER Working Paper No. 16977), **Jason Brown, Mark Duggan, Ilyana Kuziemko,** and **William Wollston** study individual-level data for 55,000 people in the Medicare Current Beneficiary Survey (MCBS) from the period 1994 to 2006. Prior to risk adjustment, insurers simply had an incentive to enroll individuals with low costs. After risk adjustment, insurers instead had an incentive to enroll individuals with low costs conditional on their medical conditions. The main reason for this is that the risk adjustment formula pays the plans the average cost of the average person in a particular risk category. The authors demonstrate that, because individuals with less costly cases of diabetes and other health conditions enrolled in MA plans after the move to risk adjustment, overpayments to these plans actually increased.

The risk adjustment formula that is used also explains only 11 percent of an individual's fee-for-service costs in the year after risk is assessed. The formula systematically over-predicts costs for those with below average costs, and systematically under-predicts costs for those with above average costs. The authors find that individuals who are more expensive than the average person to insure are less likely to enroll in Medicare Advantage plans. So on balance, the government ends up paying the average cost for people who, had they stayed in fee-for-service Medicare, would have cost the government much less.

Before risk-adjustment began in 2004, switching from fee-for-service Medicare to Medicare Advantage increased average individual Medicare spending by $1,800. The authors calculate that using risk adjustment formulas on the population that enrolled before 2004 would have reduced Medicare Advantage overpayments by more than $800 a person. But when the reimbursement formula changed, so did the pattern of enrollment in Medicare Advantage plans. After 2004, switching from fee-for-service to Medicare Advantage increased Medicare spending by approximately $3,000 per person. Thus the shift to risk adjustment actually increased Medicare spending.

Although Medicare Advantage plans did enroll people with higher "risk scores" after risk adjustment was instituted, those people still tended to be significantly below the average cost in their risk category. Furthermore, both before and after risk adjustment, MA enrollees in poor health expressed greater dissatisfaction with their medical care relative to their counterparts in traditional Medicare. This pattern suggests that MA plans invest more resources in their relatively healthy enrollees, perhaps to differentially retain them. Thus the authors conclude that the Medicare Advantage program both increased total Medicare spending and transferred Medicare resources from the relatively sick to the relatively healthy, and that risk-adjustment was not able to address either of these problems.

— Linda Gorman

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