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Quality Differences in Managed Care and Fee-for-Service

As authors **Sarah Feldman** and **David A. Scharfstein** point out in **Managed Care and Provider Volume** (NBER Working Paper No. 6523), numerous studies have attempted to measure the quality differences between managed care health plans and more traditional fee-for-service coverage. Yet few, if any, definitive conclusions have been drawn regarding the superiority of one type of health-care plan over the other. The matter is of no small consequence, since the number of Americans covered by managed care has quintupled between 1980 and 1995.

Feldman and Scharfstein take a new approach to the issue. The starting point for their work is the large body of research establishing that patients have better clinical outcomes when they are treated by physicians and hospitals with more experience in treating their diseases. The authors' goal is to examine whether patients in managed care plans tend to be treated by higher or lower volume health care providers. This approach could serve as an indirect way of measuring quality differences between managed care

and fee-for-service health insurance.

Feldman and Scharfstein use as the basis of their study data on all inpatient hospital stays in Massachusetts in 1995. These data identify the hospitals and physicians providing the care, and the patients' health insurance plans. The data also include clinical and demographic information on the patients. The researchers focus their study on the

cancer patients tend to be treated by surgeons who perform fewer operations than those operating on fee-for-service patients. There is, however, substantial variation across managed care plans in provider volume. Patients in some plans are treated by surgeons with more than 40 percent lower volume than the surgeons of fee-for-service plans and at hospitals with roughly half the

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surgical treatments of three common cancers: breast cancer, colorectal cancer, and gynecologic cancer. They choose these diseases because all three require surgical interventions; as a result, there is not likely to be a significant difference in whether patients in managed care or fee-for-service plans receive such treatment.

The data indeed indicate that managed care cancer patients tend to be treated at hospitals that perform fewer procedures, while the fee-for-service patients tend to be treated at hospitals that perform more procedures. Likewise, managed care

volume. Other managed care plans seem to be no different than fee-for-service insurance, and patients in one managed care plan are treated at very high volume hospitals (albeit by lower volume surgeons at those hospitals).

If indeed, as research indicates, volume and quality of hospitals and physicians are related, then the authors say that two conclusions may be drawn from their study. The first, which Feldman and Scharfstein call unsurprising, is that some managed health care plans may be better than others. The second conclusion

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is that managed care plans on the whole may offer lower quality care than fee-for-service plans.

Precisely why managed care patients tend to be treated by lower volume providers, the authors say, remains undetermined. One leading possibility, they say, is that managed care plans limit patients to using relatively low-volume providers. These patients might not be referred as frequently to specialists for their procedures, or their access to high-volume specialists may be restricted. Such

care plans may in fact have contracts only with low-volume community hospitals, and not high-volume teaching hospitals. This is plausible, say Feldman and Scharfstein, because lower-cost community hospitals tend to charge less for their services than higher-cost teaching hospitals.

Feldman and Scharfstein indicate, however, that there may be an alternative explanation of the findings, namely that managed care plans do not limit patient choice, but rather that members of such health plans

are less aggressive health consumers. In this light, the authors speculate, even if they had enrolled in a fee-for-service plan, such patients would choose to be treated by lower-volume providers, either because they care less about the quality of their care or are more concerned about costs—or both. Indeed, patient characteristics do appear to matter in the choice of provider; younger and higher income patients tend to be treated by higher volume surgeons and hospitals. —Matt Nesvisky

Stock Repurchases are Linked to Executive Stock Options

During the 1980s and 1990s, corporate managers increasingly chose to use corporate earnings for stock repurchases (buy-backs), or to increase corporate liquidity, rather than to pay dividends. In **Stock Repurchases and Incentive Compensation** (NBER Working Paper No. 6467), **Christine Jolls** suggests that part of the explanation for this trend may lie with the increased use of stock options in executive compensation packages.

deed, Jolls finds that the average executive in her sample of firms with repurchase activity enjoyed a \$345,000 increase in stock option value as a result of the repurchase activity. Thus there appears to be a strong incentive to neglect dividends in favor of share repurchases.

Jolls also observes that when executives are awarded restricted stock, a form of compensation that accrues dividends (in contrast to stock options), there is no observable preference for repurchases over dividends. Nor is the drive to repur-

on dividends often has been used to explain the popularity of share repurchases. However, as Jolls points out, tax differentials have been around for decades, while “the increase in repurchase activity occurred relatively recently.” And though the hostile takeovers prevalent in the mid- to late-1980s undoubtedly fueled a substantial fraction of the repurchase activity during that period, the decline in hostile takeovers in the early 1990s did not produce a reversion to the level of repurchase activity that prevailed before the takeover boom.

The results in the paper come from an initial group of 2,539 firms (eventually reduced to a sample of 324 firms) covered by SEC disclosure requirements whose 1992 fiscal years ended between December 31, 1992 and May 31, 1993. To be included, the firms must have been U.S. firms with 500 or more stockholders and fiscal-year-end assets greater than \$25,000,000. All 177 firms that announced dividend increases or repurchases or both, as reported by *The Wall Street Journal*, were included in the sample assembled from this group. A comparison group of 300 firms that announced neither repurchases nor dividend increases was randomly selected from the remaining firms and used as a control group. Data was ultimately collected for a total of 324 firms.

—Linda Gorman

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Now extremely popular across a wide range of firms, stock options give the holder the right to purchase stock at a specified price. Unlike holdings of actual stock, though, stock options do not pay managers any dividends.

While a dividend transfers cash from a firm to its outside owners without any reduction in the number of outstanding shares of stock, a repurchase uses the same corporate cash to reduce the number of shares outstanding. Therefore, the value of a share of stock is diluted by the payment of a dividend but is not diluted by a share repurchase. So stock options are more valuable after a repurchase than after a dividend. In-

chase shares a result of expanded employee stock option programs, she finds; it is executive options, not employee options generally, that are related to repurchase behavior. All in all, if “the average number of stock options held by top executives increases 50 percent from its mean value of 116,060, while the number of outstanding shares remains constant, then the probability of observing a repurchase increases by approximately 4 percentage points,” Jolls estimates. In other words, there is a “131 percent increase over the proportion of firms engaging in repurchases in the original sample.”

The fact that share repurchases shield owners from the taxes levied

Bad News Travels Slowly

In **Bad News Travels Slowly: Size, Analyst Coverage, and the Profitability of Momentum Strategies** (NBER Working Paper No. 6553), **Harrison Hong, Terence Lim, and Jeremy Stein** cite a number of studies that show that stock returns exhibit momentum: in the medium term past winners continue to perform well, while past losers continue to perform badly. They then go on to ask, what drives momentum?

Standard economic explanations do a poor job of providing an answer, they argue. For example, the evidence simply does not support a standard risk-based approach to explaining momentum. So Hong, Lim, and Stein turn to a "behavioral" approach: they ask whether momentum reflects the gradual diffusion of firm-specific information which, unlike earnings data, is not made publicly available to all investors simultaneously. They predict that stocks with slower information diffusion will exhibit more pronounced momentum.

Their sample, which runs from 1980–96, separates stocks into different classes according to the speed of information diffusion. They use data on stock returns from a file which includes NYSE, AMEX, and NASDAQ stocks, along with data on analyst coverage.

In the first set of tests, the authors sort firms into 10 classes by size and ask whether momentum strategies will be more profitable with the smaller firms. Information about small firms seeps out more slowly than information about big firms, the authors suggest. One reason is that

investors face fixed costs for acquiring information. This means that, in the aggregate, investors will devote more effort to learning about those stocks in which they can take larger positions. The authors demonstrate that, aside from some unusual behavior among truly tiny stocks, the profitability of momentum strategies does indeed decline sharply with market capitalization.

In the full sample, a baseline strategy that buys winners, the top 30 percent of firms based on past performance, and shorts losers, the bottom 30 percent, generates 0.53 percent per month return. The researchers break this result down to show that a momentum strategy generally works better for smaller firms. However, one exception is that for the very smallest class of firms, a momentum strategy actually yields a

In a further set of tests, the authors use analyst coverage as an alternative proxy for information flow, on the hypothesis that with less analyst coverage, information gets out more slowly to the investing public. The researchers hold size constant to show that momentum strategies work particularly well among stocks with low analyst coverage. In the low-residual coverage subsample, a momentum strategy yields a profit of 1.13 percent per month. For a high-residual-coverage subsample, it is only 0.72 percent. Thus the evidence confirms the predicted result, that stocks with slower information diffusion exhibit more pronounced momentum.

Hong, Lim and Stein go on to show that there is a strong asymmetry in terms of the effect of analyst coverage for good and bad news.

"The profitability of momentum strategies does indeed decline sharply with market capitalization."

negative result. The researchers argue that this likely reflects very limited investor participation in these tiny stocks—otherwise known as "thin trading"—which can lead to more pronounced supply-shock-induced reversals.

For the second smallest group of firms, momentum profits are significantly positive, though. Profits reach a peak at the third smallest group of firms, in which market capitalization averages \$45 million. Here, profits are a striking 1.43 percent per month, three times the value for the sample as a whole. Above this third class, though, momentum profits decline to the point where they are effectively zero for the largest firms.

Low coverage stocks react more sluggishly to bad news than to good news, or said differently the effect of analyst coverage is far more pronounced for stocks that are past losers than for past winners. This is consistent with the hypothesis that firm-specific information, particularly bad news, diffuses only gradually across the investing public. The authors suggest that, to the extent that managers prefer higher to lower stock prices, they will seek to publicize good news when they have it. However, when the same managers are sitting on bad news, they clearly have less of an incentive to keep investors up to date.

—Andrew Balls

Higher Benefits—Public or Private—Encourage Retirement

Since World War II, workers have been retiring at earlier ages. Between 1950 and 1989, the labor force participation rates of men decreased from 46 percent to 17 percent for those aged 65 and over, and

from 87 percent to 67 percent for those aged 55 to 64. In the same period, participation rates for women age 65 and over fell slightly from 9.7 to 8.4 percent.

One explanation for this trend is the growth of the Social Security program. Total receipts of the Old-Age

and Survivors Insurance trust fund in 1995 were \$326.1 billion, up from \$18.5 billion in 1950. In 1995, there were 26.7 million retired workers who collected average annual benefits of \$8,640. The corresponding figures for 1950 were 1.8 million and \$3,328.

Another explanation is the rapid growth of private pension coverage and other entitlements. In recent years, employer-provided pension coverage has leveled off at around 50 million workers, or about 44 percent of the work force. These plans provided about 18 percent of aggregate income of household headed by someone aged 65 and over in 1994, up from 14 percent in 1958.

In **New Evidence on Pensions, Social Security, and the Timing of Retirement** (NBER Working Paper

staying on for a while.

Changes in pension coverage also have a substantial effect on the probability of retirement. As much as one-fourth of the decline in labor force participation in the early postwar period can be attributed to the growth in pension coverage. Samwick shows that it is private pensions, not Social Security, that primarily determine the change in retirement wealth.

Samwick then analyzes changes in Social Security that are typical of past and proposed legislation and finds

“As much as one-fourth of the decline in labor force participation in the early postwar period can be attributed to the growth in pension coverage.”

No. 6534), **Andrew Samwick** links the demographic, employment, and wealth data on households gathered in the Surveys of Consumer Finances in 1983 and 1986 with information on those individuals' pension plans from a companion Pension Provider Survey. He finds that the most significant economic determinant of the probability of retirement is the accrual of retirement wealth attributable to continued work, not the level of retirement wealth at a given point in time. In other words, a senior worker may delay retirement if the pension plan enables him to accumulate or accrue a bigger pension by

that they have modest impacts, reducing labor force participation by about 1 percentage point. Increasing employer-provided pension coverage by about 50 percent generates a much bigger drop in labor force participation: about 5 percentage points for those between ages 50 and 70. That's roughly 27 percent of the actual reduction that occurred during 1955 to 1975 when pension coverage did grow by 50 percent.

Using these numbers, Samwick estimates that if Social Security benefits were cut 20 percent in 2032—as present calculations of the Social Security Trustees indicate might be

necessary—the probability of being retired by age 70 would drop about 1 percentage point. The generosity of Social Security benefits does not alter the relevant economic incentives by enough to generate substantially different retirement behavior, Samwick reckons.

A more historic look at the impact of pensions on retirement is **The Effect of Old Age Assistance on Retirement** (NBER Working Paper No. 6548) by **Leora Friedberg**. She examines Old Age Assistance (OAA), a means-tested program established at the same time as Social Security, but which dwarfed Social Security until the 1950s. By 1940, 22 percent of the aged population received OAA benefits—an extremely high rate by the standards of today's welfare programs. OAA was replaced by the current Supplemental Security Income program in 1974.

Using data from the 1940 and 1950 Censuses and historical records on state benefit levels, Friedberg finds that the increase in benefits during the decade had a strong impact on retirement decisions. In that period, the prospering economy encouraged older workers to stay in the labor force. But OAA benefits were sufficiently generous to counter that trend, leading to a decline in the labor force participation of the aged.

—David R. Francis

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