

The Role of the Capital Markets in Restructuring Health Care

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Who would have predicted at the time of the Arrow article in 1963 the growth in assets invested in health care that we have seen¹ fueled by an unprecedented use of tax-exempt debt, retained earnings, and new stock? Enfranchisement of the formerly uninsured through Medicaid and Medicare plus the continued growth of private health insurance have given marginal providers the cash flow that allowed this dynamic growth in capital investment while substantial subsidies lowered their financing cost.

Yet it is not clear whether access to new sources of funds precipitated the restructuring of health care or the demand for capital² was simply the result of fundamental need. Irresponsible investments by managers certainly have occurred.³ Yet once the industry embraced capitalism's largess,

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1. The Bureau of Economic Analysis, U.S. Department of Commerce (www.bea.doc.gov), reports that net fixed assets have grown to a level five times higher proportionally than the parallel quantity index for all health services over the 1960–1999 period.

2. Note that *capital* can mean both *capital investment* in plant and equipment and other long-lived assets as well as *capital financing*, meaning the sources of funding for assets. This essay distinguishes between the two in this way but generally uses the term *capital markets* to describe the institutions and investors who provide capital financing.

3. Perhaps the most outstanding recent example of poor investment of corporate assets in health care is the case of the AHREF (holding company for a Pennsylvania hospital and medical school complex built with endowment and borrowed funds), which was forced into bankruptcy in 1998 (Burns et al. 2000).

it found that the accompanying market discipline was a demanding counterforce to its excesses. The capital markets have been a major factor in both expansion and contraction, allowing excesses and demanding fiscal responsibility.

How much of this was anticipated in the classic Arrow article? More important for our day are (1) how and why the capital market provides the funds it does to the health sector and what it expects in return; (2) how the resulting market discipline extends to both for-profit firms and nonprofit organizations; (3) what this means for the structure of ownership and control of the industry; and (4) what the implications are for access, quality, and cost.

What Did Arrow Say about the Capital Markets, and What Has Changed?

Professor Arrow implicitly assumed that capital was an integral part of the production of health services, but he did not particularly distinguish it from other factors. He discussed the “ownership of assets and skills that command a price on the market” in passing but did not consider it explicitly as a critical element (Arrow 1963). The overall manner in which health care providers presented themselves to potential buyers was his concern in achieving a Pareto optimal distribution. This lack of explicit attention may reflect the relatively smaller reliance on capital investments in the production of health services at that time. Furthermore, Arrow’s world was physician-centric with little attention to the hospital except as a “physician workshop,” a concept popular during the subsequent period (Pauly and Redisch 1973). Hospitals and other institutional providers were not viewed as separate economic actors.

However, the massive private investment and financing of capital assets in the years since Medicare have changed all of this. Community fund-raising and the Hill-Burton program (grants and loan guarantees) of Arrow’s time had provided most of the capital in the previous decade, and profits were largely nonexistent. Since then funding has come largely from retained profits, tax-exempt bonds, and stock issues. These later sources depend completely on payment systems, which did not exist in 1963. Medicare and Medicaid, in particular, converted formerly unprofitable segments (the poor and elderly) into paying customers. Furthermore, the original cost-based payment systems used by the government in 1965 included interest and depreciation as reimbursable expenses thus assuring the cash flow needed for debt interest and principal payments.

As a result, the credit ratings of formerly weak organizations improved to the levels of those who promised to reimburse them—namely, the government and private insurers. With better ratings came full access often aided by tax-exempt bond authorities established in many states to further lower the cost of borrowing (Gershberg, Grossman, and Goldman 1999). By any stretch of the imagination, this form of payment and subsidy dramatically reduced the required return on investment to justify expansion or replacement. With such reduced cost, investment was sure to boom, and it did. As long as patients with insurance showed up, almost any expenditure could be justified and financed whether clinically or financially responsible. It is little surprise that certificate of need regulations were imposed to slow down this growth.

The advent of fixed price payment in 1983 for each case or service (i.e., the Medicare Prospective Payment System based on diagnosis rather than treatment) gave hospitals the ability to retain substantial profits if service cost were carefully managed. The obvious increase in financial risk under this system was more than offset by a growth in profit margins. The possibility for entrepreneurial gain expanded the profit-making potential of all hospitals regardless of their tax status. Since 1965, only investor-owned hospitals had been paid a return on investment as an allowable cost under the prior Medicare system. But now the playing field was leveled, and the margins and thus the financing abilities of most hospitals soared. Average total profit margins rose from 2.6 percent in 1980 to 6.7 percent in 1997 (Gutterman 2000). Average Medicare inpatient margins peaked at 17 percent in 1997 and have fallen some under recent cutbacks. Academic medical centers did much better with Medicare profits, reaching 28.6 percent of payment for inpatients offset partially by a 10.4 percent loss on outpatients and much more on uncompensated care (MedPAC 2000). These high margins certainly influenced Congress in limiting payment to hospitals under the Balanced Budget Act (BBA) of 1997. Although the BBA has hurt, subsequent legislation⁴ has restored a significant amount to the industry.

The prospective payment system has been very generous overall, although the results varied widely, largely based on policy-based additions to base payments for teaching, care to the poor, and location. In most years one quarter to one half of all hospitals had negative Medicare inpatient margins. The risk imposed on these hospitals was very real,

4. The Balanced Budget Refinement Act (BBRA) of 1999 and the Medicare, Medicaid Benefits Improvement and Protection Act (BIPA) of 2000 have restored a significant fraction of the amount lost under the BBA.

sometimes cutting them off from capital financing. However, the rewards were substantial, especially for the winners, and far exceeded what was required to justify the increased risk they were asked to bear.

The resulting unprecedented increase in free cash flow unencumbered by prior commitments drove growth. Agency theory suggests that this prosperity would tempt management to spend the money just because it was there (Jensen 1986). Having historically high profits opened access to greater debt financing also subsidized by tax deductibility and guarantees. While some were cut off from financing due to their individual risk, the average hospital had easy access to the capital markets for most of this period. The debris of disintegrating integrated health systems is testimony to the fact that many agents (i.e., management) made poor use of their low-cost funds as predicted by agency theory.

On the other hand, the use of outside financing should have had two positive implications. The fixed cost of debt magnifies the bottom-line impact of variations in operating income under prospective payment, thus increasing the pressure to avoid losses. Economic theory also suggests that the “bonding” of future cash flows to repay debt has an ameliorating effect on the free cash flow problem by reducing management flexibility to make poor investments. Both of these should serve to strengthen the fiscal responsibility of institutions. However, payment subsidies and differentials often covered poor investments. Bad investments often were justified as socially necessary, strategically critical, or required for quality and access. But the fact was that payment and financing subsidies allowed excesses that would not have occurred in other industries. As long as sufficient cash was available, the discipline of the capital markets was blunted, and such investments continued as high margins covered up mistakes.

Another interesting melding occurred as the capital market increased pressure to maintain and enhance profitability. Management of nonprofit providers began to behave more like their investor-owned counterparts in the rest of the economy. In fact, in the long run, the greatest impact of the recent decades of capital financing may be a narrowing of the fundamental differences between for-profit and not-for-profit institutions.

The Discipline of the Capital Markets

The capital market is dominated by an economic perspective, which leaves little room for broader measures of welfare. Those who lend money want it paid back. The fact that they are just intermediaries

entrusted with other people's money makes actions to this end a legal imperative. In this role, they must be focused on a health provider's ability to pay interest and principal, and retain earnings as a cushion or as a return on investment. This is the source of market discipline.

Both the excess cash flow under improved payment and this market discipline are the engines of industry restructuring, first, in straightforward ways, by funding expansion, and, later, in ways often both unexpected and unintended by those who originally responded to the siren song of marginal investment and easy financing. The fact is that when profits falter and investments fail, the investors who provided funds can force management changes, mergers, or even liquidation as they attempt to meet their fiduciary duty. This discipline can be harsh indeed and certainly can restructure the landscape.

In contrast to this, Arrow's "value judgments," which dominated decision making in his world, were made in a sociopolitical marketplace, not one dominated by purely mercantile exchange (Arrow 1963). The desire is that government action would make the market reflect the appropriate values of society. However, in his extensive discussions of social welfare Arrow clearly recognized that perfection was impossible (Arrow 1970).

Government subsidies have an impact on capital by providing either (1) increased assurance of stable revenue or (2) direct loan guarantees or grants. If such interventions had been applied perfectly, then we would have the exact amount of technology, bricks and mortar, and working capital needed to provide the proper amount of care to all who need it. Instead, we have maldistribution of resources, unequal access, and excess capital investment. Social welfare tools are hard pressed to achieve broad equilibrium when the dominant sources of capital only care about getting an economic return, the government is not all-wise in administering subsidies, and the voters are not in agreement over who deserves them. In other words, health care is a perfect example of the Arrow Impossibility Theorem posited seven years after the base article for this series (ibid.).

In spite of imperfections in design, it is clear that health care providers do respond to incentives and subsidies although the consequences of their actions may differ from the original policy intent. The problem is often exhibited as a boom-bust-boom cycle found in many areas of health care. Skilled nursing facilities are a good example. Medicare originally included a fairly generous payment for nursing home care on the grounds that it is a substitute for low-level hospital care. Furthermore, there were few such facilities in existence at the time of this landmark legislation.

However, in the two years following the start of Medicare in 1965, entrepreneurs built thousands of new beds. The new for-profit nursing home chains, such as Humana and Four Seasons, became the darlings of Wall Street with unlimited horizons for making money. Of course, when Congress tightened the rules to pay for only a limited time after discharge from an acute care hospital, the bubble burst. Bankruptcy followed for some (e.g., Four Seasons) while others exited the sector (e.g., Humana). Growth resumed only when state Medicaid programs were convinced to be more generous in their payment levels for the medically indigent. The same payment-induced capital capacity cycles have happened in hospitals, dialysis centers, mental health facilities, rehabilitation, and other service providers.

Capacity clearly follows payment. Often the cycle overshoots prudent bounds of rationality as profit-seeking entrepreneurs interact with myopic subsidizers. Government subsidies clearly have not resulted in market clearing prices that balance supply and demand consistent with social objectives.

Market Imperfections

Arrow did suggest market imperfections based on information asymmetry and uncertainty regarding the incidence of disease and the efficacy of treatment. These provided the conceptual basis for the existence of insurance (Arrow 1963).

In addition to these two, further imperfections not recognized in the Arrow article may exist if the capital market does not respond properly. Entry barriers that make it difficult for competitors to enter a market and exit barriers that limit the liquidation of unneeded investments may lead to suboptimal levels of investment as investors see either more or less risk respectively in the two cases than in a fully competitive market. Entry barriers are well-discussed phenomena coming from technology, experience, or other competitive advantages (Thompson and Formby 1993).

Exit barriers, on the other hand, can be created by the presence of ongoing debt obligations coupled with the fact that specialized investments in health facilities often have limited alternative use and relatively low liquidation value, most often ending up as inefficient nursing homes. In the presence of debt and specialized assets, ending a marginal activity may not release enough funds to make it a rational short-term decision even though the long-term need is past.

On the other hand, when ending an activity would release net funds after debt repayment that are not needed in the enterprise, the not-for-profit form of organization typical among delivery institutions truncates their ability to return excess equity capital and retained earnings to those who invested it or to the capital markets to be recycled to a better use. Only debt repayment, not share repurchase or cash dividends, is an allowable means of distributing excess cash. This immobility of capital may also be a serious barrier to exit, as institutions tend to take on a life of their own independent of how much value they create for the community. Thus hospitals tend to close only when no patients show up rather than when their prospective return on investment is too low to justify continuation. It is not surprising that the exit rate of hospitals is still relatively low given the number of unoccupied beds (Bellandi 2000).

Also, under pressure for profitability, there clearly exists a potential for suboptimal decision making arising from a primary focus by providers on the paying segment rather than the whole population. Competition for insured business, although very spirited, will lead away from a global optimum unless subsidies are very precise. In effect, rather than the single market implicit in Arrow, we have multiple segments with greatly varying levels of imperfection.

The Market for Corporate Control

The large role of capital also has encouraged the growth of a new “market for corporate control” of health care enterprises (Jensen and Ruback 1983). It is not surprising that creditors and large stockholders of publicly held firms would force mergers and acquisitions, bankruptcies⁵ and reorganizations, and changes in management. However, the very idea that not-for-profit organizations as well would experience similar fates was hard to imagine in 1963. Most of this restructuring activity was instigated and fueled by access to new sources of capital that did not exist when local fund drives and government grants were the financing of choice for most new health ventures. With the use of other people’s money came the responsibility to meet more stringent financial requirements. The loss of managerial control was the consequence for not doing so.

Inasmuch, every not-for-profit that accepted financing from outside

5. Although corporate law precludes a creditor forcing a not-for-profit into involuntary bankruptcy, the ability to withhold further funds to maintain operations generally would be sufficient leverage to allow them to exert control or induce voluntary bankruptcy.

investors put itself “in play” in the market for corporate control whether it understood it or not. Of course, those who voluntarily converted from not-for-profit corporations to investor-owned entities clearly were put at risk of radical change at the hands of unhappy or insurgent stockholders. Yet the threat of bankruptcy is the ultimate lever of control and may be even stronger than the votes of shareholders. In 1963 such challenges to control simply were not possible in the congenial club that constituted most nonprofit health care boards. However, in recent years, competitive or financial threats have compelled a very large portion of all providers to merge with larger entities with resulting loss of local managerial control.

Merger and acquisition activity also is a barometer of the optimism of the capital market for health ventures. In most areas of health care, these have followed a long-term growth pattern until 1997 when the BBA turned down the cash spigot. This dampened the belief that the next management group could do a better job than the last. However, the ride has been wild.

The finance literature posits the existence of market efficiency where all available information is instantly incorporated in prices and no excess profit is available beyond a market-based, risk-adjusted return on investment (Ross, Westerfield, and Jaffe 1999: 319). However, *in retrospect*, the information incorporated in valuation decisions may be incomplete or just plain wrong. Perfect markets do not eliminate uncertainty; they only value it as well as is possible. The price of beds, patients, enrollees, residents, or other units of worth reflects speculation and uncertainty about the future. For instance, acquisition prices of HMOs peaked at about \$1,000 per enrollee in 1997 but dropped by 25 percent in the next two years as profits stalled. Hospital acquisition values fell from a median price of about \$250,000 per bed in 1997 to about \$170,000 by 1999. Not coincidentally, in 1997 the BBA reduced payment for Medicare. On the other hand, the price per assisted and independent senior living unit continues to rise from about \$55,000 in 1995 to \$75,000 in 1999 due to the fact that they depend on a growing cash stream from more affluent individuals (Monroe 2000).

While valuation of health care assets is an imprecise art at best, it clearly is driven by expectations of what others will pay and what can be done to improve the cash flow to enhance this valuation. Furthermore, if there are enough assets of a similar nature trading hands, one can report a meaningful market price for the asset stated in terms of a standard unit of capacity or volume. In some situations, it may be possible to “securi-

tize" that unit (i.e., bed, patient, enrollee) and view it as an undifferentiated commodity. Uwe Reinhardt has provided a good example of this process for physician practices (Reinhardt 1997). The resulting market allows those with less knowledge of specific situations to invest in the underlying asset (hospitals, nursing homes, etc.) more freely. But it also permits them to speculate and chase opportunities to an extreme. The defensive actions of nonprofits intent on independence and survival may further feed the merger frenzy as they try to block encroachment of outsiders by their own acquisitions. The end is predictable. When disappointing results are first reported, a pall is cast over all similar assets, and the merger game stops.

The resulting boom-and-bust pattern has happened twice in the last thirty years in hospitals. After a speculative run-up in stock prices and a chase of acquisitions to maintain accounting growth (and thus justify high price-earnings ratios), the inevitable crash resulted in massive sell-off of hospitals and repurchase of stock by virtually every for-profit chain in the 1980s and again in the 1990s. After going private and paring down operations, a new initial public offering in a few years sets off a new speculative round. The latest cycle is just ending with the spectacular failure of Columbia HCA and its subsequent sale of assets. Investor speculation has resulted in the building, expansion, and renovation of many redundant facilities and organizations. It also has driven "roll ups" of existing providers into physician practice management firms, dialysis centers, laboratory corporations, and the like (Robinson 1999).

The fact now is that changes in Medicare payment under the BBA have radically cut merger and acquisition activity because the excess cash that made these attractive is less available. Thus, nursing homes, home health agencies, HMOs, and almost every other health care organization are at the bottom of the speculative trough that drove their growth in assets in prior years (Monroe 2001).

Conclusions

By any measure the capital market has had a major role in restructuring the health care sector in the four ways listed at the outset of this essay:

The capital market provides the funds it does to the health sector and expects a return just the same as in any other area of enterprise. Reliance on private investment sources in the United States has fundamentally shaped the focus of the industry in a manner dramatically different from the systems found in other countries where governments supply capital.

For all of the disclaimers about the importance of patients, service, and community, the fact is that all institutions with outstanding debt must meet their financial obligations first if they are to continue. As the level of outside financing has grown, other differences blur, and traditional concern for the public or even attending physicians may come second after profitability.

The resulting market discipline extends to both for-profit firms and non-profit organizations in several ways. Both are competing for the same population pool, lenders expect debt service from both, and payment systems do not discriminate on ownership. Medicare does subsidize teaching and care to the poor in its formula, perhaps giving large medical centers an advantage. However, with most forces in their environment indifferent to ownership and significant economic challenges to each, the impact of market discipline is large for all.

As a result, *the structure of ownership and control of the industry in future years probably is not of as great concern as it was in the great debates of the 1980s* (Gray 1986). This is not to minimize disruptions in care and loss of wealth and jobs in the boom-and-bust cycles of investor-owned providers. The more important question will be whether the requirements of private capital can be made compatible with larger needs of society to provide service to marginal populations. Stated in another way, the concern is the ability of government to set payment levels and subsidies so as to allow privately financed providers to meet these needs while staying solvent and avoiding suboptimal decisions in the pursuit of paying customers. At the same time, society must be prepared for occasional windfall profits when one private entity gains at the expense of less agile or poorly positioned competitors who suffer losses or close.

However, given the inability of government to broker reductions in excess capacity, allowing private failure may be the most efficient or perhaps the only way to reconfigure our capacity to fit our need without years of pain and loss. Interestingly, the last acquisition cycle in hospitals had the effect of preserving massive amounts of community capital that otherwise might have disappeared through the losses of the marginal not-for-profit facilities acquired by for-profits. In fact, many were ultimately closed as their underlying weakness became apparent to the new owners. Fortunately, the cash paid was safe in the conversion foundations formed to accept the payment from for-profit chains that acquired them in their drive for growth in earnings. This culling of poor performers and the preservation of invested capital for other social uses are somewhat surprising benefits from the speculative role of private equity capital in

this sector. Whether this will happen again and whether it is an appropriate way to reconfigure such an important sector is a fruitful area for policy discussion.

The implications for access, quality, and cost coming from the role of private capital in the health sector are very uneven depending on location, health status, and insurance coverage. The mere fact that the implications are mixed probably is enough to raise concern over this manner of financing our investment in health providers. Few would argue that a social good like health care should be so tied to market forces that many are denied access. Furthermore, the variation in outcomes shown in many studies (Wennberg and Gittlesohn 1982) demonstrates that even for those who have access, the private capital markets have not assured high quality. Finally, the impact of private capital on cost is debatable. Some would argue that the flexibility and responsiveness provided by this form of financing have forced competitors to innovate to provide value (Robinson 1999). However, international comparisons of outcomes and costs suggest our privately financed system is lacking on both dimensions (Millenson 1998).

On the other hand, it is not clear that a governmentally financed system would be superior. The performance of government-financed schools, transit, and communications has not been noticeably better than either private or public organizations who receive capital from the market as in health care. The advantage of having an external financial monitor is not to be taken lightly.

The fact is that the United States cannot change the role of the capital markets at this point in time due to the massive existing investment. The issue before us is how to make it work better.

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