

BY ROBERT B. ARCHIBALD AND DAVID H. FELDMAN

People generally assume that rapidly rising prices are a sign of pathology within the health care industry. But, to borrow a line from George and Ira Gershwin, “it ain’t necessarily so.”

Most studies of this angst-producing cost trend identify the ways in which medical care markets are unique. We take just the opposite tack, identifying ways in which similar cost pressures are recognizable in other industries. And we hit the mark with two other huge service industries: higher education and law. Prices in all three consistently rise more rapidly than prices in general, and they even follow parallel time paths.

Bad news, times three? Not necessarily. For rising costs in all of them are, in part, the indirect consequence of economic growth and technological progress. Three characteristics of these industries cause them to react this way. First, they produce services, as opposed to goods. Second, they rely heavily on highly educated labor. Third (and least obvious), technology tends to increase productivity in all three by improving the quality of the output rather than reducing the quantity of inputs – labor, materials, etc – needed to make them.

Of course, there are particularities to each that also influence price changes. Accordingly, there are still good reasons to ask whether high-quality medical care could be delivered for less money, and to shape market incentives to that end. But not at the expense of mistaking the trees for the forest: sustained cost pressure in medicine – or in legal ser-

vices and higher education – is not itself evidence that the industry is inefficient or that public policy has failed.

JUST THE FACTS, PLEASE

Consider the time paths of real (inflation-adjusted) prices for several product categories, as compiled by the Department of Commerce. An index number above 1 indicates that the price of the good or service has risen more rapidly than the average price; a number below 1 indicates a rise less rapid than average.

Several things stand out in the graph. The real prices of services – everything from higher education to haircuts – all increase, while the real prices of goods, including food, shoes and autos, all decrease. Then, too, the prices of services that rely on highly educated labor rise more rapidly than the price of services dependent on less-skilled labor. Last, starting in 1980, there is a pronounced acceleration in the price differences of the services dependent on college-educated labor, and a leveling off in services that primarily use less-educated workers.

COST DISEASE

The first link between prices in medical care, higher education and legal services comes from what economists call “cost disease.” The

idea is most often associated with William Baumol of NYU, but can be traced all the way back to David Ricardo, a giant of early-19th-century economics. Technological progress that increases labor productivity is not randomly distributed across industries and over time. Rather, it is higher in industries in which labor is only one of several inputs than in industries in which labor itself is, for all practical purposes, the final product.

Shoes and autos fit well in the former category, while haircutting and legal services are excellent examples of the latter. Technological change generally cuts the amount of labor it takes to make most manufactured goods, and competition forces firms to pass on the fruits of higher productivity in the form of higher wages and/or lower prices. By contrast, productivity gains in service industries are either hard to achieve – or easily mistaken for decreases in quality. As Baumol dryly put it, a live half-hour Mozart horn quintet takes 2.5 musician-hours to make, and any attempt to increase productivity would be noticed by critics and audiences alike.

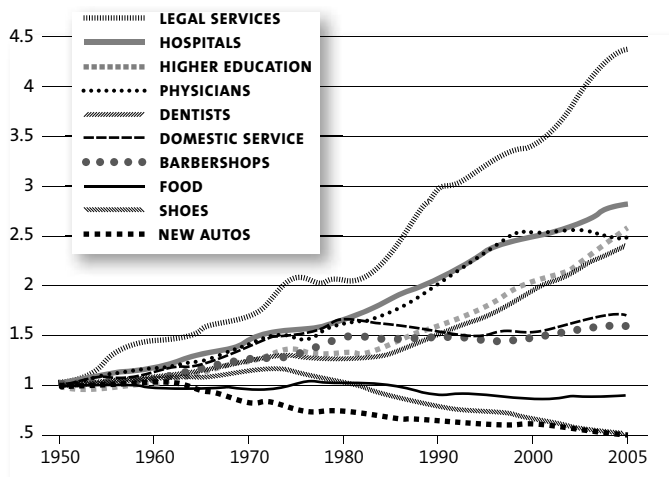
Despite lagging productivity, service industries have to compete for workers who have the option to work in other, highly productive sectors. And the only way they can attract labor is to match rising manufacturing wages, which puts upward pressure on service industry costs (and prices).

Of course, unlike Baumol’s horn quintet, productivity gains are possible in medical care, higher education and legal services – but only within limits. In medical care, for example, patients predominantly interact one-on-one with the provider. Physicians’ offices can make some substitutions – say, more time

with a physician’s assistant and less with the physician. Robots can assist in surgery, specialized software can help with some diagnoses, and computerized medical records can save physicians’ time. Still, there are limits to how much the method of delivery can change before patients perceive the changes as a reduction in quality.

Higher education faces similar constraints on productivity growth. Innovations like Web-based distance learning could increase the number of students on the receiving end of a professor’s lecture. But the gold standard

REAL PRICES



SOURCE: Department of Commerce, Bureau of Economic Analysis

of higher education is still direct interaction between teacher and pupil. The same is true with legal services: paralegals can do some of the preparation and computers can aid legal research, but the lawyer who is not available to his clients risks their discontent.

Evidence of cost disease abounds. From 1929 to 2000, the average price of services rose almost three times faster than the price of durable goods (cars, appliances, and the like). But there is a second, more interesting question here that can’t be explained away by

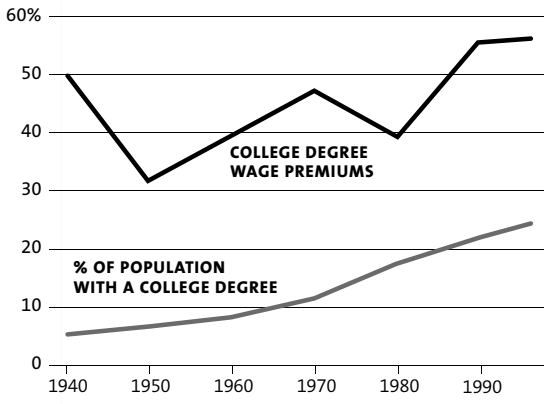
BIG IDEAS

cost disease: why have prices in medical care, higher education and legal services risen more rapidly over the last quarter-century than the prices of other services? After all, our argument that face-to-face interactions are important is no truer in these three industries than it is for barbers. The explanation lies in differences in the sorts of labor used.

THE ROLE OF THE LABOR MARKET

All three industries rely on highly educated labor. And the gap in wages between skilled and unskilled labor started to rise rapidly around 1980, mirroring the price increases in

COLLEGE GRADUATES AND COLLEGE WAGE PREMIUMS



SOURCE: Wage premium: David H. Autor, Lawrence F. Katz and Alan B. Krueger, "Computing Inequality: Have Computers Changed the Labor Market?" *Quarterly Journal of Economics*, 113 (1998). Percentage of the population with a college degree: 2006 *Digest of Educational Statistics*.

our three industries. After falling significantly from 1940 to 1950, the "wage premium" generated by a college education started to climb. Its ascent was briefly interrupted during the 1970s, but thereafter accelerated.

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The years 1940 to 1980 are described by Claudia Goldin (Harvard) and Robert Margo (Boston University) as the Great Compression. In 1940, a male at the 90th percentile of the income distribution earned five times as much as a man at the 10th percentile. A decade later, this 90-10 ratio had fallen to three. Thereafter, it crept back up, but very slowly: wage differentials in 1975 for men were very similar to their 1945 levels. This extraordinary leveling of wages went into hard reverse in the late 1970s. By 1990, the 90-10 ratio for male workers was up to 5.4.

To attract highly educated workers to jobs in medical care, higher education and legal services, employers had to overcome increasingly stiff wage competition after 1980. And since these industries have among the highest ratios of educated workers to total employment, this structural change has played a large role in the acceleration of prices compared with other services like barbering, where the educational requirements do not include college.

Supply factors alone – the democratization of higher education – explain why the college wage premium fell in the 1970s before beginning its upward surge. In that decade, the percentage of adults with college degrees soared from 11 percent to more than 17 percent. But the growth in the supply of college-educated workers continued thereafter. Why, then, did the wage gap begin to grow?

The most plausible explanation is that the expanding supply of skilled workers triggered a shift toward technologies that demanded more skill on the part of workers – and that this shift more than offset the impact of growth in the numbers of college-educated workers. Higher wages have put cost pressure on all industries that use relatively large numbers of educated workers. But this is not the end of the story.

TECHNOLOGICAL PROGRESS AND COST

Technological change can have two very different effects on output. It can make goods and services of a given quality less expensive to produce – if you can make the same output with less input, the cost falls. Alternatively, technology can induce the production of better-quality products, or new products that are highly valued. This latter effect is what has happened with a vengeance in medical care, higher education and legal services, mostly by adding expensive equipment to improve service quality.

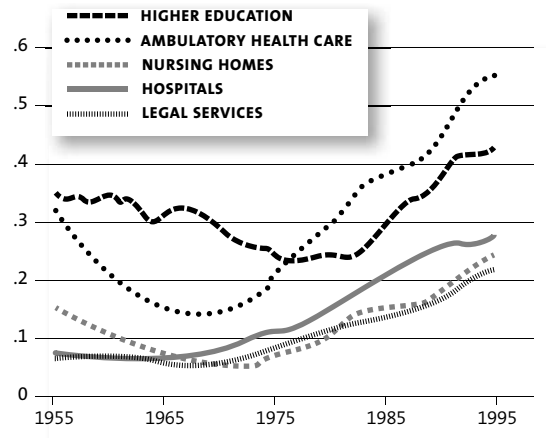
Note that the ratio of equipment to buildings for higher education, legal services and various components of health care like hospitals, nursing homes and ambulatory health care started rising roughly in 1970. (The upturn in the ratio is somewhat delayed in legal services, but there is an upturn nonetheless.)

A key factor driving the increase in the equipment-building value ratio is the rise in the use of computers. Starting from zero in 1961, the proportion of equipment composed of computers, computer peripherals and software grew to 9 percent in ambulatory health care, 11 percent in hospitals, 14 percent in nursing homes, and 41 percent in legal services by 2004. (Parallel data are not available for higher education.)

Along with the more intensive use of electronic equipment, there has been a change in the mix of employees in our three service industries. From the mid-1970s through the early 1990s, the percentage of workers lacking professional skills declined in each. And with the exception of non-hospital health care, which includes the nursing home subsector, the trend continues to the present.

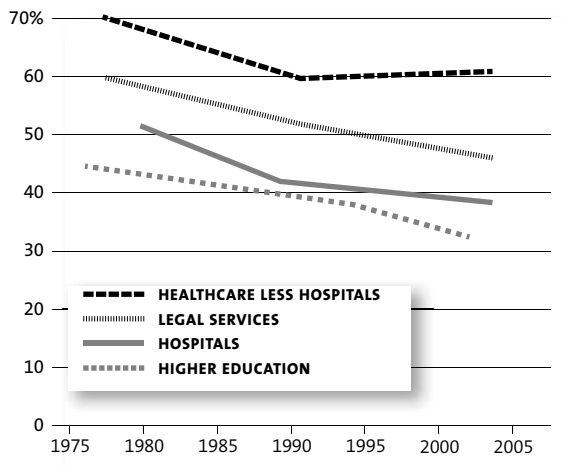
The skills of the workforce (along with the wages paid) have been heading north since 1980 in almost every industry. But the impact of this phenomenon on prices has varied

RATIO OF THE VALUE OF EQUIPMENT TO BUILDINGS



SOURCE: Higher Education: *Digest of Educational Statistics 2005* Table 222. Ambulatory health care, nursing homes, hospitals and legal services: Bureau of Economic Analysis.

PROPORTION OF NON-PROFESSIONAL WORKERS



SOURCES: Higher education: *Digest of Educational Statistics 2005*. Health care data: Bureau of Labor Statistics.

strikingly. Consider, for a moment, the manufacture of a standardized product such as cement or sulfuric acid. The only reason a firm would choose a production technique using more equipment and more skilled labor is to save money. Sulfuric acid, after all, is sulfuric acid, no matter how it is made. New techniques

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are adopted only if they lower costs and, at least in the short run, increase profits.

The incentive to get more output for less money has certainly played a role in the shift to using more equipment and skilled labor in medical care, legal services and higher education as well. For example, when the authors were graduate students, economics departments employed typists to prepare everything from exams to professional manuscripts. Today, faculty members do all of that work with the assistance of personal computers aided by a corps of highly educated (and expensive) specialists who manage university software systems and networks.

But in most cases in medical care, law and higher education, the adoption of new technology that required the substitution of skilled labor for less-skilled labor has been linked to changes in the sorts and quality of services provided. For example, the adoption of more accurate imaging equipment leads to fewer mistakes in diagnoses and subsequent treatment. The new equipment may be more expensive than the old. But if the machines produce better outcomes, both patients and physicians will want them used.

This potential for quality-induced cost pressures is reinforced by physicians' legal obligation to meet evolving standards of care. Doctors risk lawsuits if they choose to do things the old way simply because it is cheaper.

The case of legal services is not that different. There has been an explosion in the use of technology in law offices. And, not surprisingly, clients have raised their expectations about the quality of service. Because legal documents can easily be redrafted on PCs, they are revised far more frequently. Because legal researchers can enter computerized databases, lawyers are expected to have all of the

relevant case law at their fingertips.

In higher education, professors no longer have the luxury of using old technology, if only because their students must be ready to use the new technology adopted by employers. The undergraduate chemist, for instance, has to be able to understand and operate the high-tech toys now routinely used in modern industrial chemistry labs.

Think of industries lying on a continuum. On one end are industries in which the new technology has reduced costs, but has had no effect on quality. On the other are industries in which new technology has facilitated quality increases, but has not reduced costs. In the middle are industries in which the new techniques have both cut costs and raised quality. One reason that prices in medical care, higher education and legal services have increased more rapidly than the prices of other services is that they all land on the high-cost/high-quality end of the spectrum.

A LAST WORD (WELL, REALLY TWO)

Economic studies comparing industries are the exception. That, we think, is because researchers rarely know much about industries other than their own, and have little incentive to find out more. But here, at least, this sort of specialization plainly exacts a price by obscuring the causes of inflation and misdirecting policymakers.

That said, we don't want to leave the impression that policymakers should stop worrying about health care costs and let the good times roll. The health care industry is surely riddled with incentive problems that often lead to the delivery of the wrong services to the wrong people, and at too great a cost. Our point is that the tendency for medical price increases to outstrip the overall inflation rate is not, in itself, a reason to think the industry is failing to deliver the goods. **M**

YA SHUDDA BEEN THERE

Some 3,000 movers and shakers from 50 countries attended the 11th annual Milken Institute Global Conference at the Beverly Hilton in Los Angeles, April 28-30. Not surprisingly, Topic A was financial market distress, though sessions on energy, climate change, health care and emerging markets were also packed. Panel summaries and audio recordings are available on the Global Conference Web site (www.milkeninstitute.org/gc2008), where you can also order DVDs of most sessions.

FELINE FIXES

Casualty insurers, reeling from claims after natural disasters in recent years, are concluding that existing means of managing their risks are inadequate. The key to getting those risks under control without forcing property owners to go elsewhere for coverage, Milken Institute researchers argue, is to adopt more advanced methods of financial engineering.

The report, "Financial Innovations for Catastrophe Risk: Cat Bonds and Beyond," is based on a MI Financial Innovations Lab supported by Allstate Insurance. Catastrophe bonds and other insurance-linked securities, the report suggests, could go a long way toward protecting both the industry and its clients in an era of escalating risk.

And happily, the new tools are gaining a foothold in the marketplace. Cat bond offering grew from \$2 billion in 2002 to \$14 billion in 2007. What's more, cat bonds outperformed equally rated corporate bonds in recent years by as much as eight percentage points. However, transaction costs will have to fall before they can fully meet their prom-

ise. The full report is available at www.milkeninstitute.org.

CLEARER IS BETTER

Investors suffering the fallout from housing-credit follies should take heart in the news from emerging markets: most are adopting international financial reporting standards that increase financial transparency and make investments far easier to evaluate. The recently released 2008 Milken Institute Opacity Index shows higher scores in transparency as well as corporate governance in most of the 48 countries surveyed. Perhaps not surprisingly, though, the United States, Britain and Singapore all lost substantial ground in the rankings. Check out the rankings and the full report at www.milkeninstitute.org.

RECESSION BLUES

It may not be official, but it's real. A new report from the MI concludes that the recession arrived in the first quarter of 2008, with a drop of 0.6 percent in real GDP (annualized rate), followed by a 0.9 percent drop in the second. The impact of housing market freeze, credit market turmoil, soaring oil prices, and reduced consumer borrowing more than offset the gains in export demand linked to the tumbling dollar.

The impact on California will be more pronounced than in other states because of the high concentration of mortgage originations, high dependence on the construction industry and decreased imports flowing through the state's huge ports. Download "The Economic Outlook for the United States and California: Slow Growth or Recession?" from www.milkeninstitute.org. **M**

Don't leave them hungry back home

When Europeans and Americans complain about immigrants, they rarely consider the critical role their earnings play in containing the consequences of poverty back home. Remittances have exploded in recent years, rising from \$116 billion in 2002 to \$240 billion in 2007. And that, it should be noted, only represents the money that was sent electronically or declared at the border; tens, if not hundreds, of billions more (including illicit drug earnings) never see the light of official documents.

Interesting, the countries most dependent on remittances are not in Latin America; they are dirt-poor states that became independent after the collapse of the Soviet Union. Increased border enforcement, money-laundering rules and declining job prospects in the U.S. construction industry have slowed growth in remittances to Latin America. But the gap has been more than made up by flows to the Philippines, India, Pakistan and Bangladesh as the oil boom in the Gulf sucks in guest workers.

SELECTED COUNTRIES	REMITTANCES (US\$, MILLIONS)		REMITTANCES (% OF GDP) 2006
	2002	2007	
India	\$15,700	\$27,000	2.8%
China	13,000	25,700	0.9
Mexico	11,000	25,000	2.9
Philippines	9,700	17,000	13.0
Pakistan	3,600	6,100	4.0
Bangladesh	2,900	6,400	8.8
Tajikistan	100	1,300	36.2
Moldova	300	1,200	36.2
Kyrgyz Republic	<100	700	27.4
Honduras	700	2,600	25.6
Lesotho	200	400	24.5
Haiti	700	1,200	21.6
Jordan	2,100	2,900	20.3
Jamaica	1,300	2,000	18.5
El Salvador	2,000	3,600	18.2
Nepal	700	1,600	18.0
West Bank & Gaza	300	600	14.7
Serbia	2,100	4,900	13.8
Guatemala	1,600	4,100	10.3
Morocco	2,900	5,700	9.5

SOURCE: World Bank estimates based in IMF data.



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