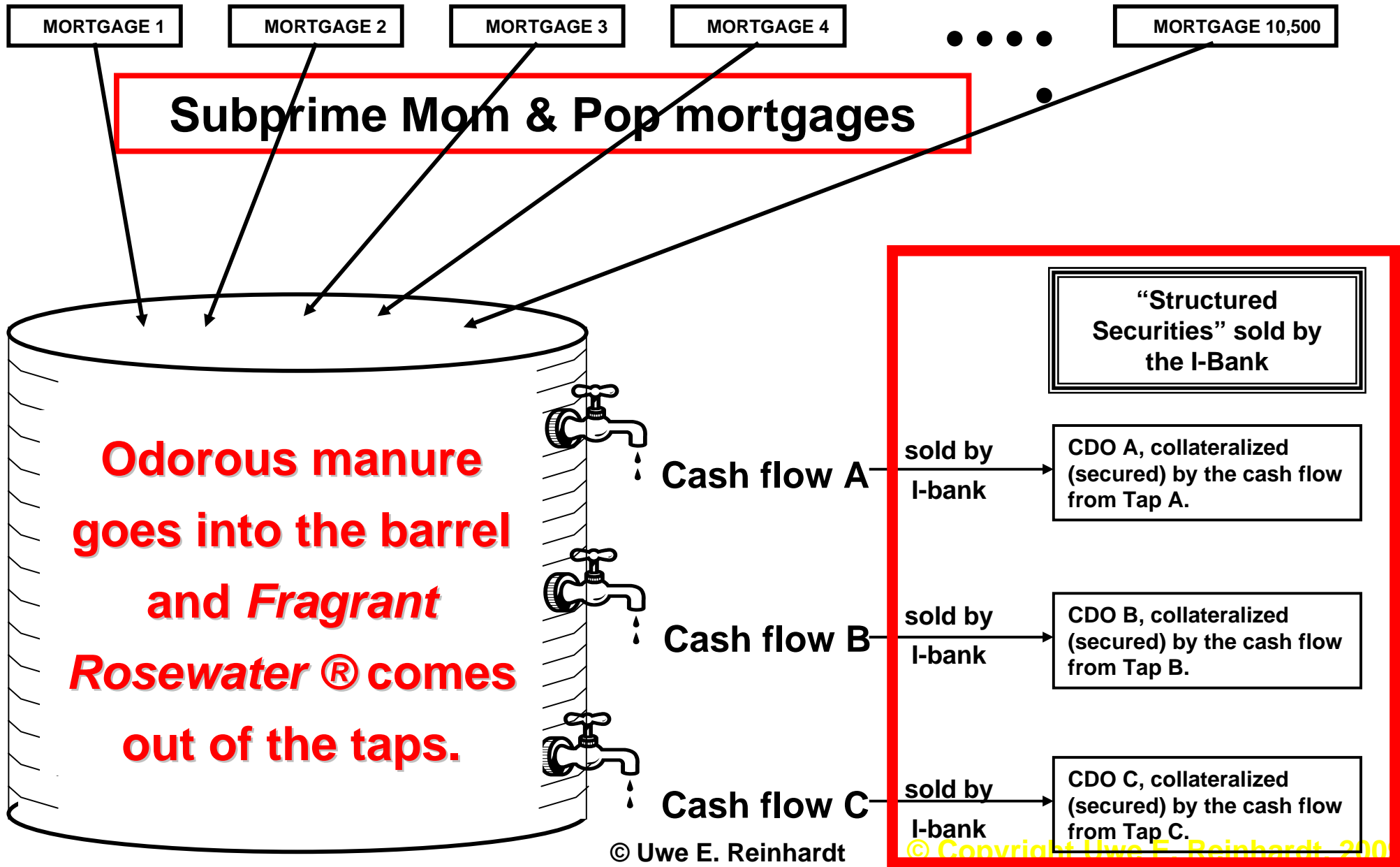


And the bankers looked at these original subprime mortgage documents, had their lawyers verify that they were signed, and therefore judged them good.

**And my friend, the banker, showed me his bank's
nouveau business model.**

MORPHING MANURE INTO ROSEWATER



**And America's world-famous perfume smellers –
Moody's, Standard & Poor, Fitch – were asked to judge
the rosewater securitized from the dodgy subprime
mortgage paper – the manure in this allegory – smelled
the rosewater and judged it good – AAA, that is.**

And thus it was that the bankers, in order to make their balance sheets smell nice, borrowed trillions of dollars to buy the fragrant rosewater (structured securities) that they had concocted and sprinkled the rosewater generously all over the asset side of their balance sheets.

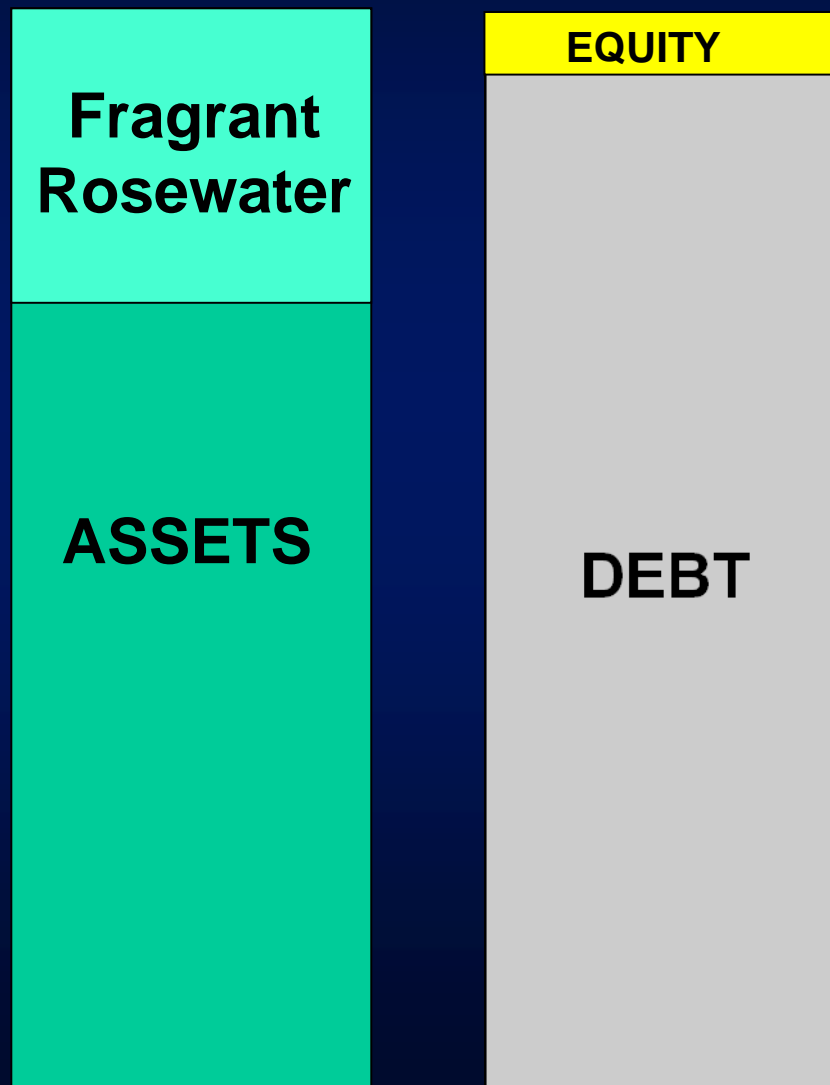
And the banks' world-famous external auditors judged the banks' balance sheets strong and, thus, good.

And America's brilliant economists who, with a very few notable exceptions, march to the ancient Roman maxim

“Est, ergo optimum est, dummodo ne gubernatio civitatis implicatur” (*It, exists, therefore it must be optimal, unless government is involved*)

beheld the doings on Wall Street through the prism of that maxim and judged these doings “optimal,” which is even better than “good.”

And thus it is that many of America's banks ended up with balance sheets looking something like this:



Contributed by the owners.

The typical bank borrowed between \$30 and \$40 for every \$1 of owner's equity to buy assets, including mucho Rosewater.

THE U.S. ECONOMY AND HEALTH CARE:

Implications for Health Reform

I. THE MACRO-ECONOMIC ENVIRONMENT

A. What happened to our economy, the pride of *The Wall Street Journal* ?

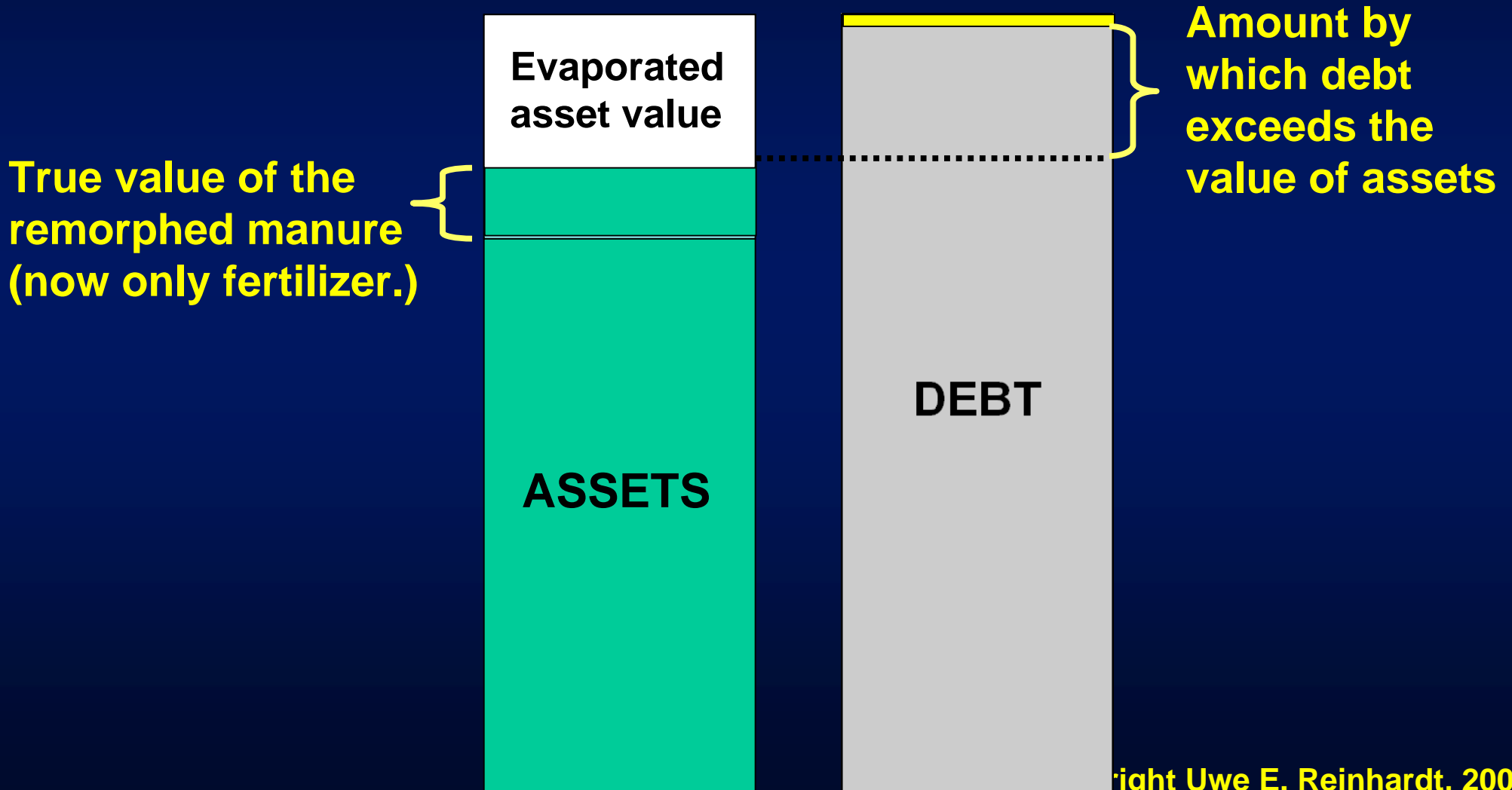
B. Modern banking I: morphing manure into perfume

**C. Modern banking II: morphing fragrant rosewater
back into smelly manure**

Alas, the banks' disillusioned physicists and mathematicians (a.k.a. quants) never managed to make the molecular structure of their rosewater stable.

So, before long, the rosewater all morphed back into smelly manure.

**TECHNICALLY, MOST OF OUR BANKS APPEAR TO BE INSOLVENT
IN THE SENSE THAT THEY OWE MORE DEBT THAN THE TOTAL
MARKET VALUE OF THEIR ASSETS**



And, under the time-honored mantra of American rugged individualism

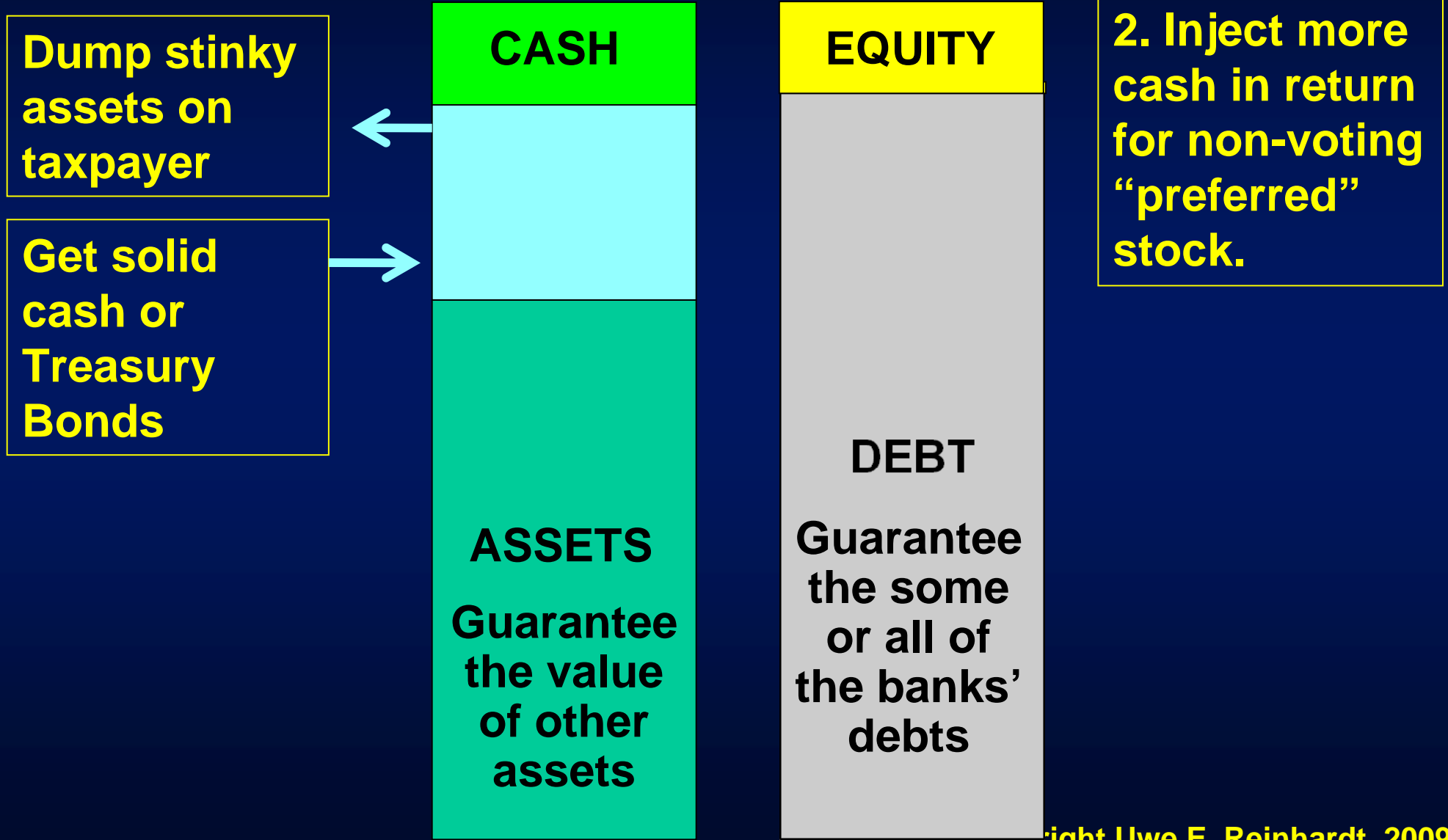
**WHEN THE GOING GETS TOUGH,
THE TOUGH RUN TO THE GOVERNMENT**

America's rugged bankers ran to the government, getting a sympathetic ear from their blood-brother, Secretary of the Treasury Hank Paulson, and his sidekick, Federal reserve Chairman Ben Bernanke.

“Our balance sheet stinketh,” lamented the bankers, who were as surprised as they were distraught. “Pray, take this stinky mess off our balance sheet and sell it to the taxpayer.”

And the compassionate *Paulson-Bernanke Duo* promptly obliged, selling the stinky mess to Congress and the taxpayer as potentially valuable “fertilizer.”

THE ALL-AMERICAN BANK BAILOUT OPERATION™



And thus America arrived what the Chinese call a

GIANT MISHEGAZ

THE U.S. ECONOMY AND HEALTH CARE:

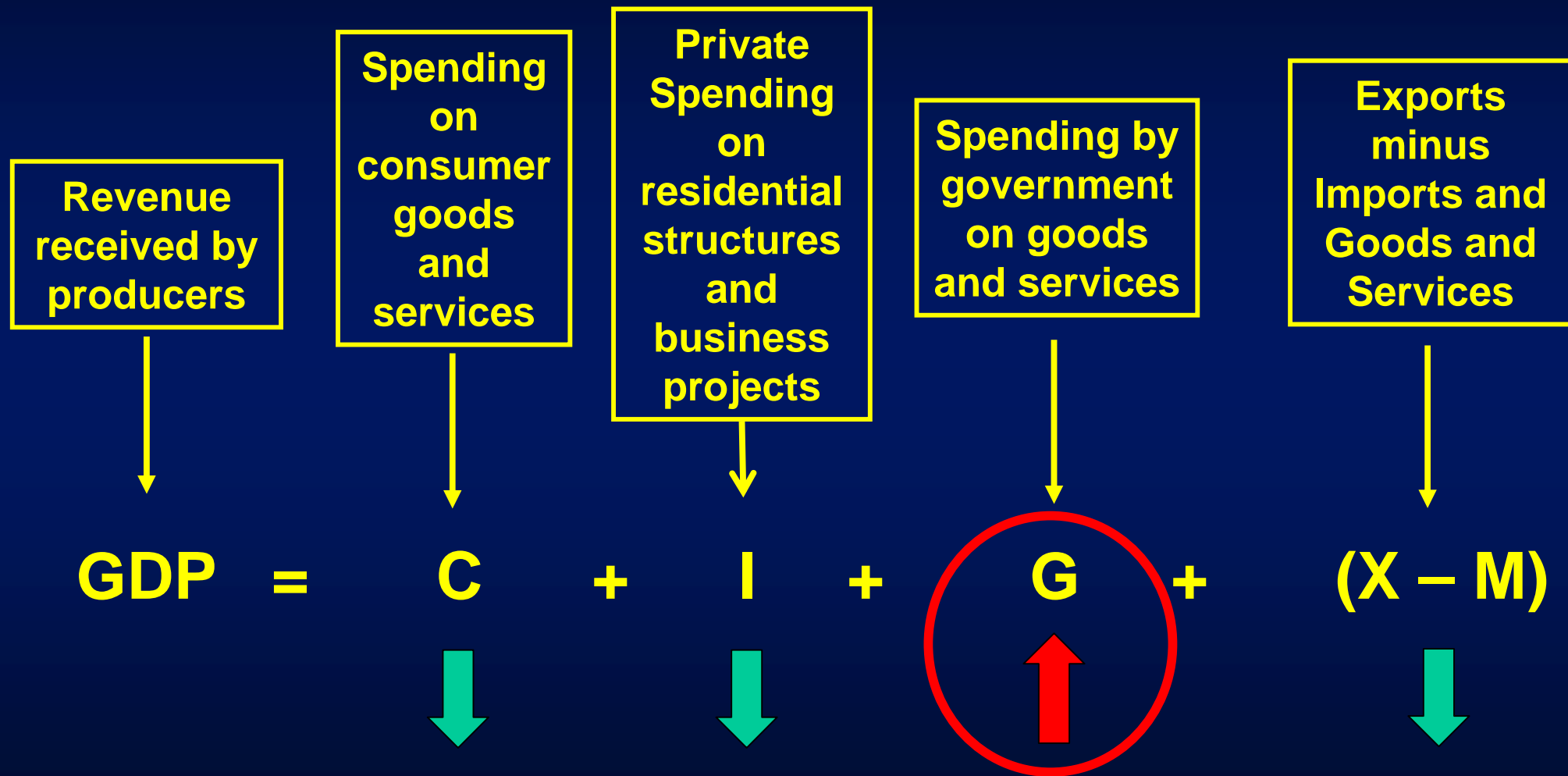
Implications for Health Reform

I. THE MACRO-ECONOMIC ENVIRONMENT

- A. What happened to our economy, the pride of *The Wall Street Journal* ?
- B. Modern banking I: morphing manure into perfume
- C. Modern banking II: morphing rosewater back into manure
- D. Lord Keynes to the rescue**

REMEMBER THE FIRST LECTURE IN ECON 101?

THE CENTRAL CORE OF KEYNESIAN DEMAND-SIDE STIMULUS



G = gov't spending on operations + gov't spending on investment

In deep recessions, “Keynesian” demand-side economics (increasing G) works better than tax cuts (to increase C and I) at this particular time when:

- 1. Households might simply use any tax savings to reduce debt or save more to rebuild the wealth they have lost, rather than spend these tax savings.**
- 2. Business firms are unlikely to use any tax savings now to upgrade capacity when they cannot even sell the output from existing capacity.**

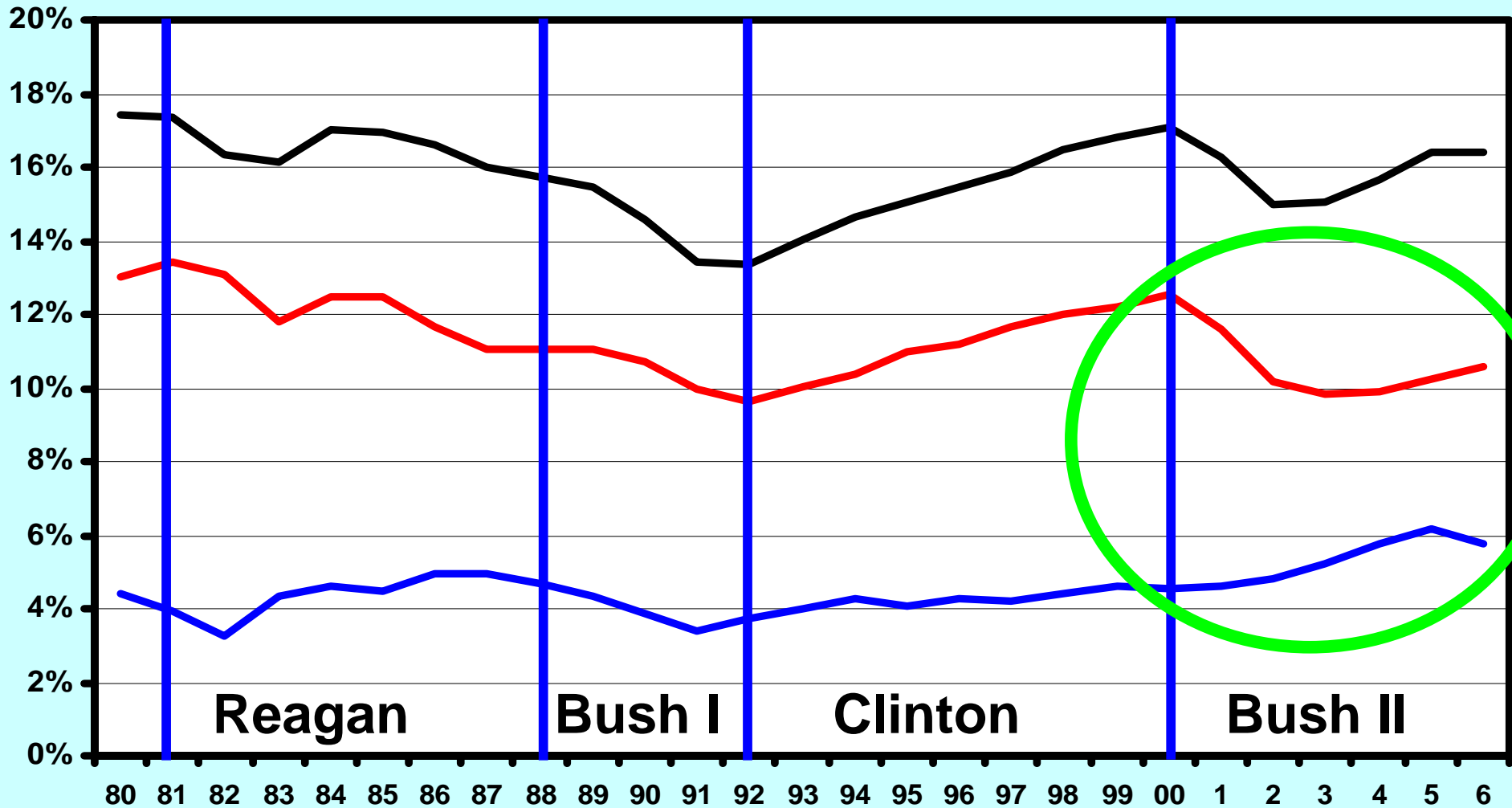
The next slide shows how the fraction of GDP devoted to business investment fared after President Clinton’s tax increases and after President George W. Bush steep tax cuts.

The fraction of GDP devoted to business investment did not increase in response to the huge tax cuts in 2001-03. It fell.

(Of course, economists who simply believe that business investment responds positively to tax cuts will simply claim that “other things did not remain equal” and without the tax cuts investment as a fraction of GDP would have fallen even more. It is the profession’s escape valve).

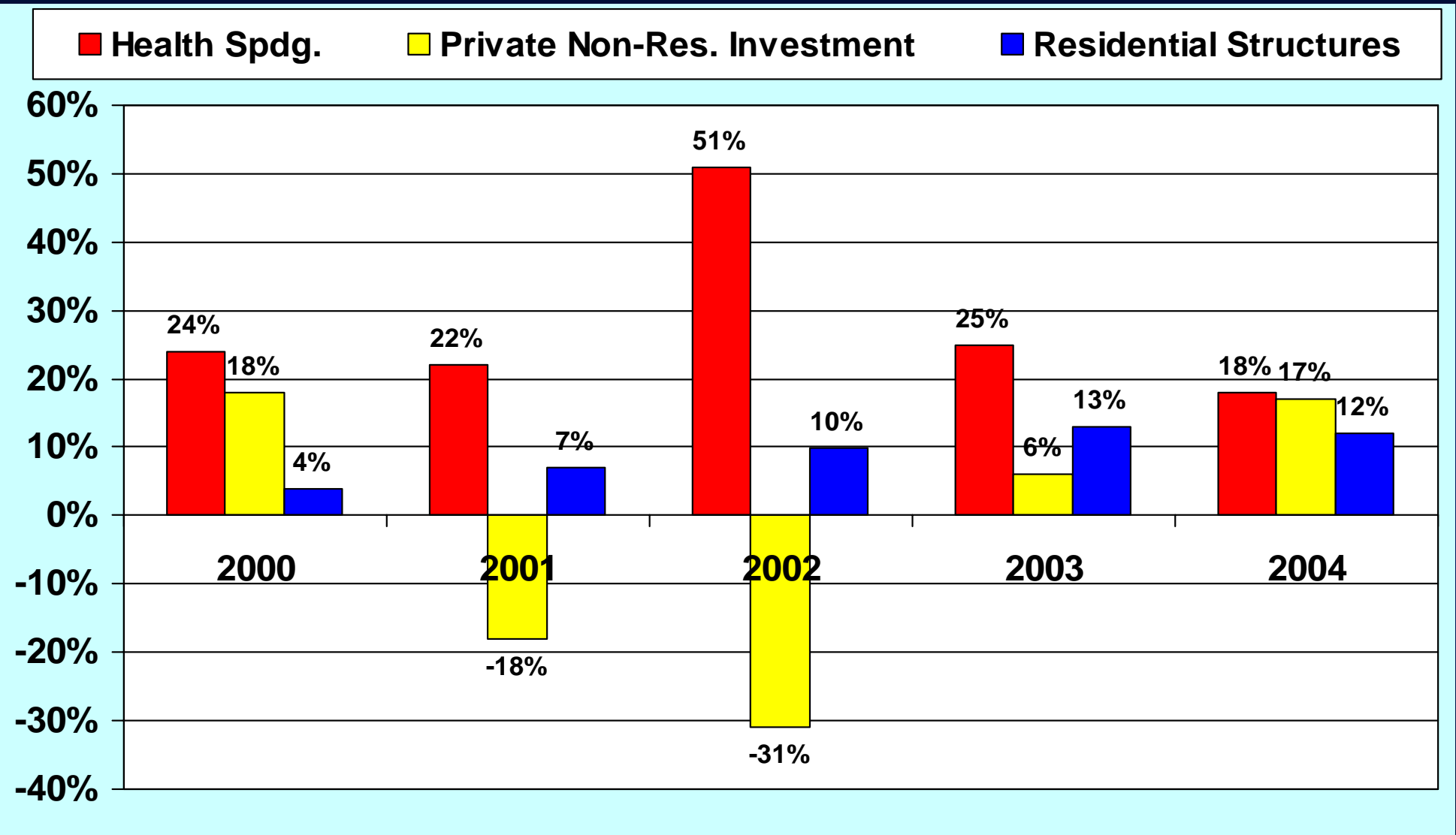
TOTAL PRIVATE INVESTMENT AS PERCENT OF GDP 1980 - 2006

— TOTAL PRIVATE INVESTMENT — NON-RESIDENTIAL — RESIDENTIAL



In fact, it was health spending that pulled through the economy in the 2000-2004 recession.

FRACTIONS OF GROWTH FROM PRIOR YEAR IN U.S. GDP THAT IS ACCOUNTED FOR BY GROWTH IN U.S. HEALTH SPENDING AND PRIVATE INVESTMENT, 2000-2004



SOURCE: President's Economic Report 2006 and *Health Affairs*, Jan/Feb 2006.

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THE U.S. ECONOMY AND HEALTH CARE:

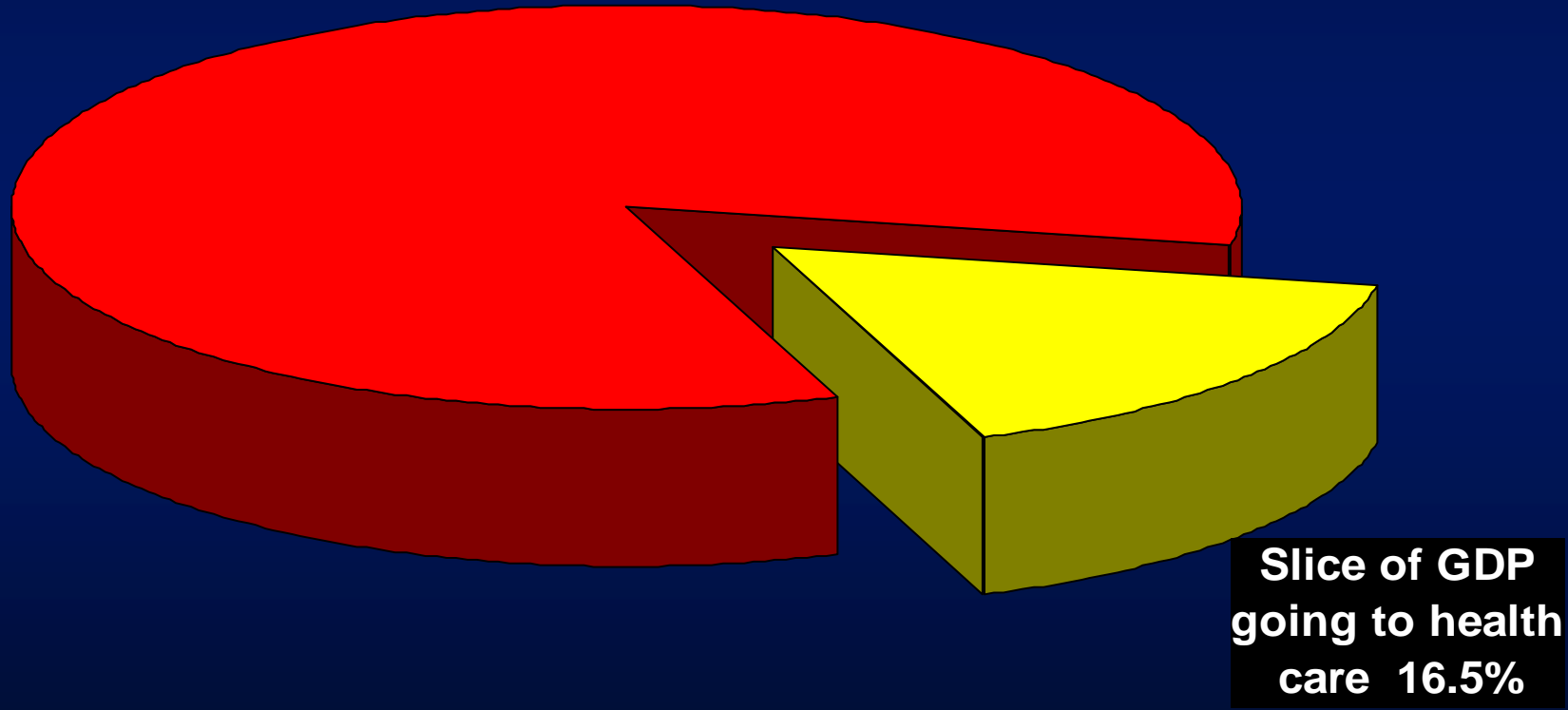
Implications for Health Reform

I. THE MACRO-ECONOMIC ENVIRONMENT

- A. What happened to our economy, the pride of *The Wall Street Journal* ?
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- D. Lord Keynes to the rescue

E. Health care as an economic locomotive

Health care is part of the GDP and should be part of any stimulus package that increases G, government spending.



The McGraw-Hill Companies

BusinessWeek

SEPTEMBER 29, 2009

www.businessweek.com

What's Really Propping Up the Economy



Health care
has added
1.7 million
jobs since
2001. The
rest of the
private
sector?
None.

BY MICHAEL
MANDEL
p. 54

ECONOMIC TRENDS IN U.S HEALTH CARE:

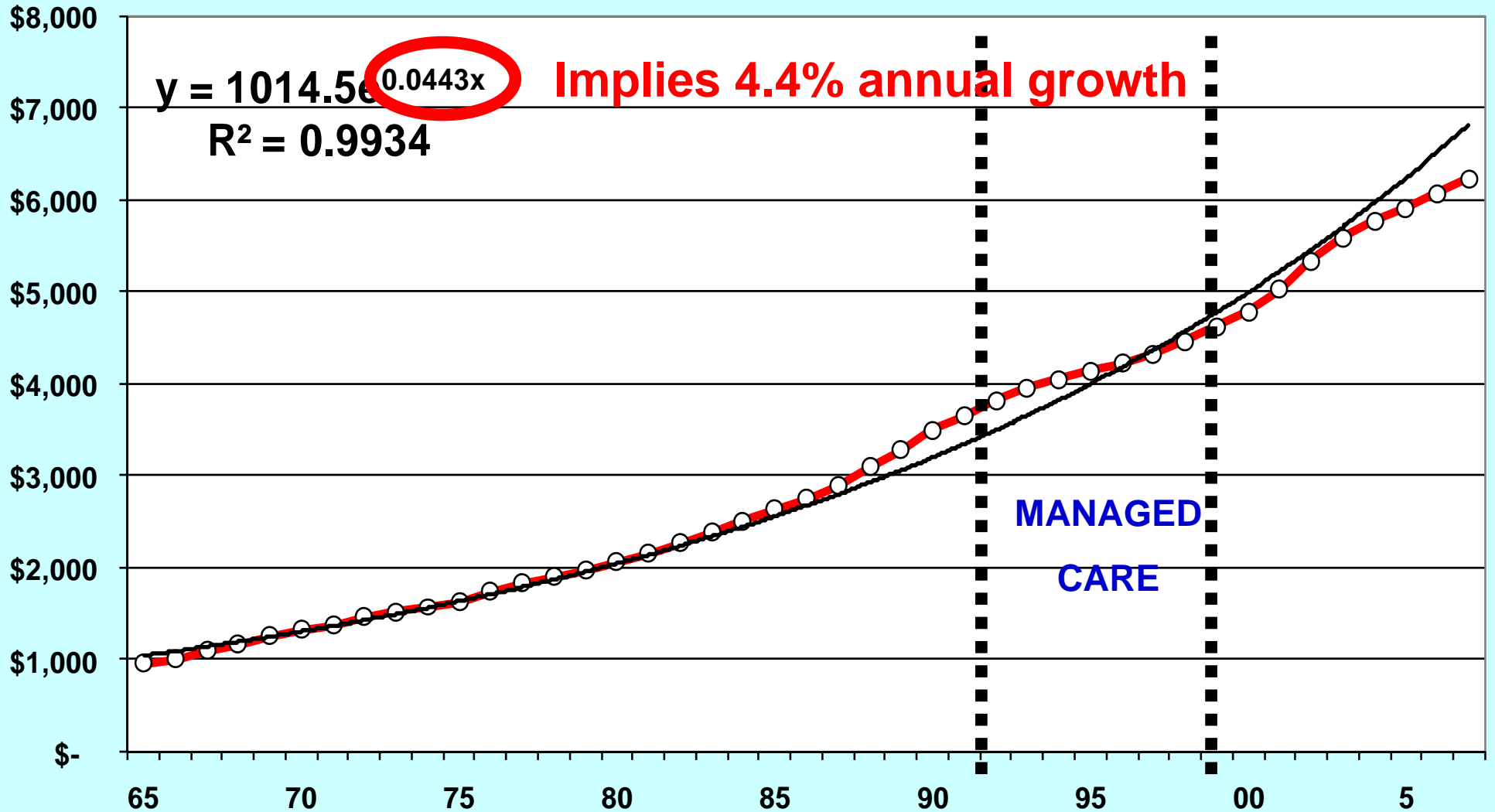
Implications for Investors

I. THE MACRO-ECONOMIC ENVIRONMENT

II. ECONOMIC TRENDS IN HEALTH CARE

A. Health spending trends: past and future

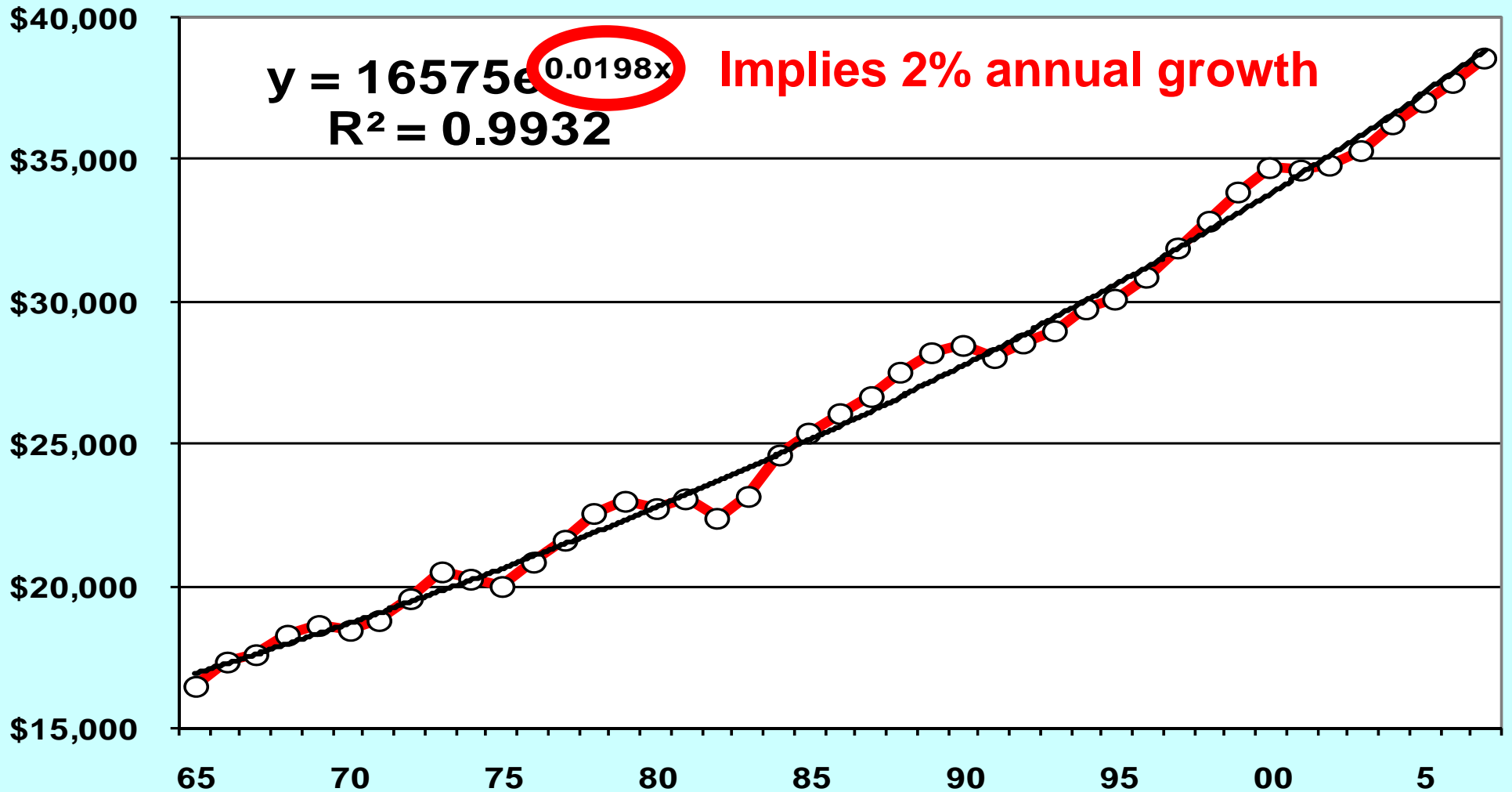
REAL NATIONAL HEALTH SPENDING PER CAPITA, 1965-2007



SOURCE: CMS Data & Statistics.

© Copyright Uwe E. Reinhardt, 2009

REAL GDP PER CAPITA 1965-2007



SOURCE: CMS Data & Statistics.

© Copyright Uwe E. Reinhardt, 2009

THE 2½ PERCENT RULE

Over the past four decades, the growth of health spending has exceeded the growth of GDP on average by over 2% to 2½% points.

The health sector has always marched on like that, like a stubborn and unstoppable beast.

Health Economist
beholding it all in
amazement

**HEALTH
SECTOR**

*Beats
Banking*

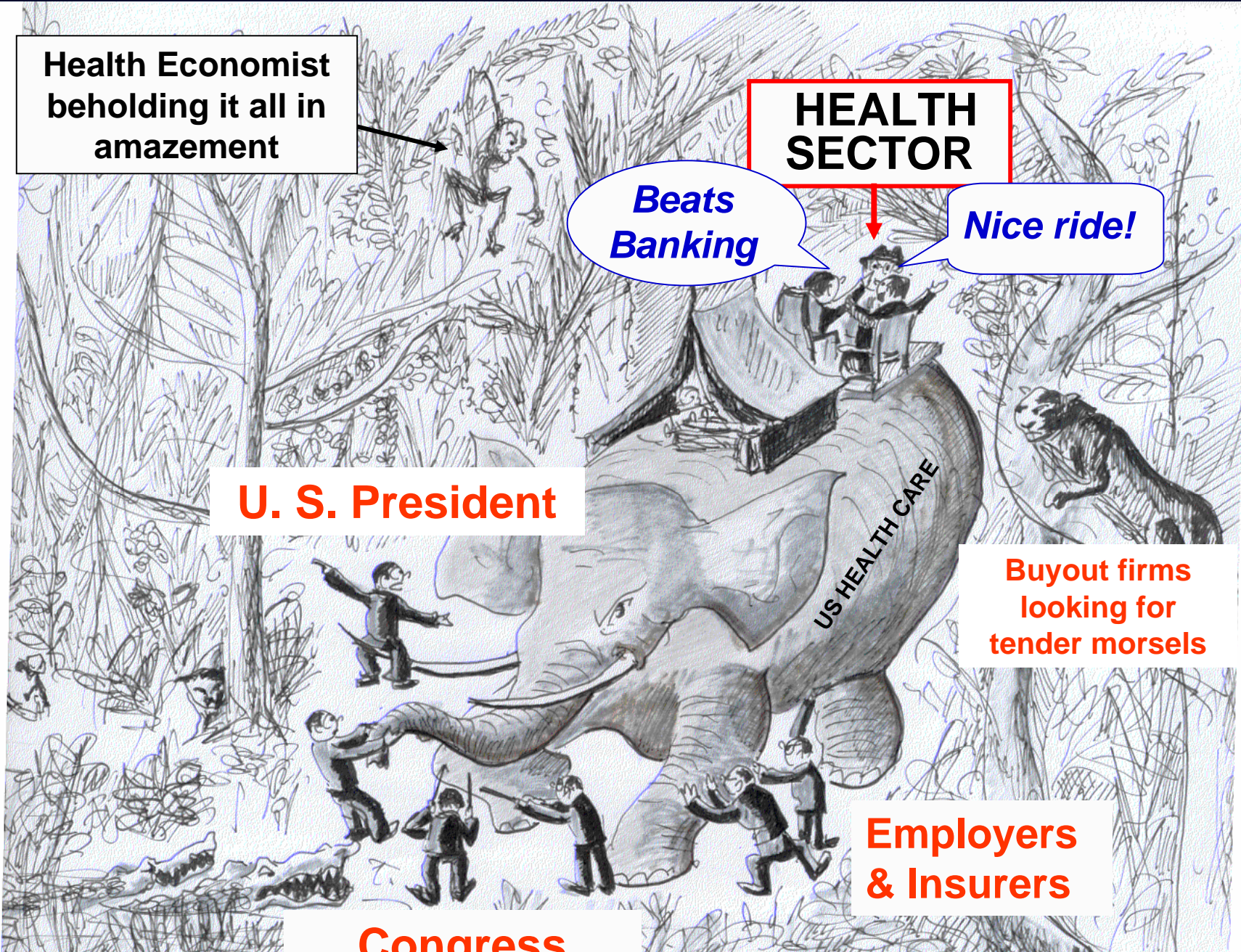
Nice ride!

U. S. President

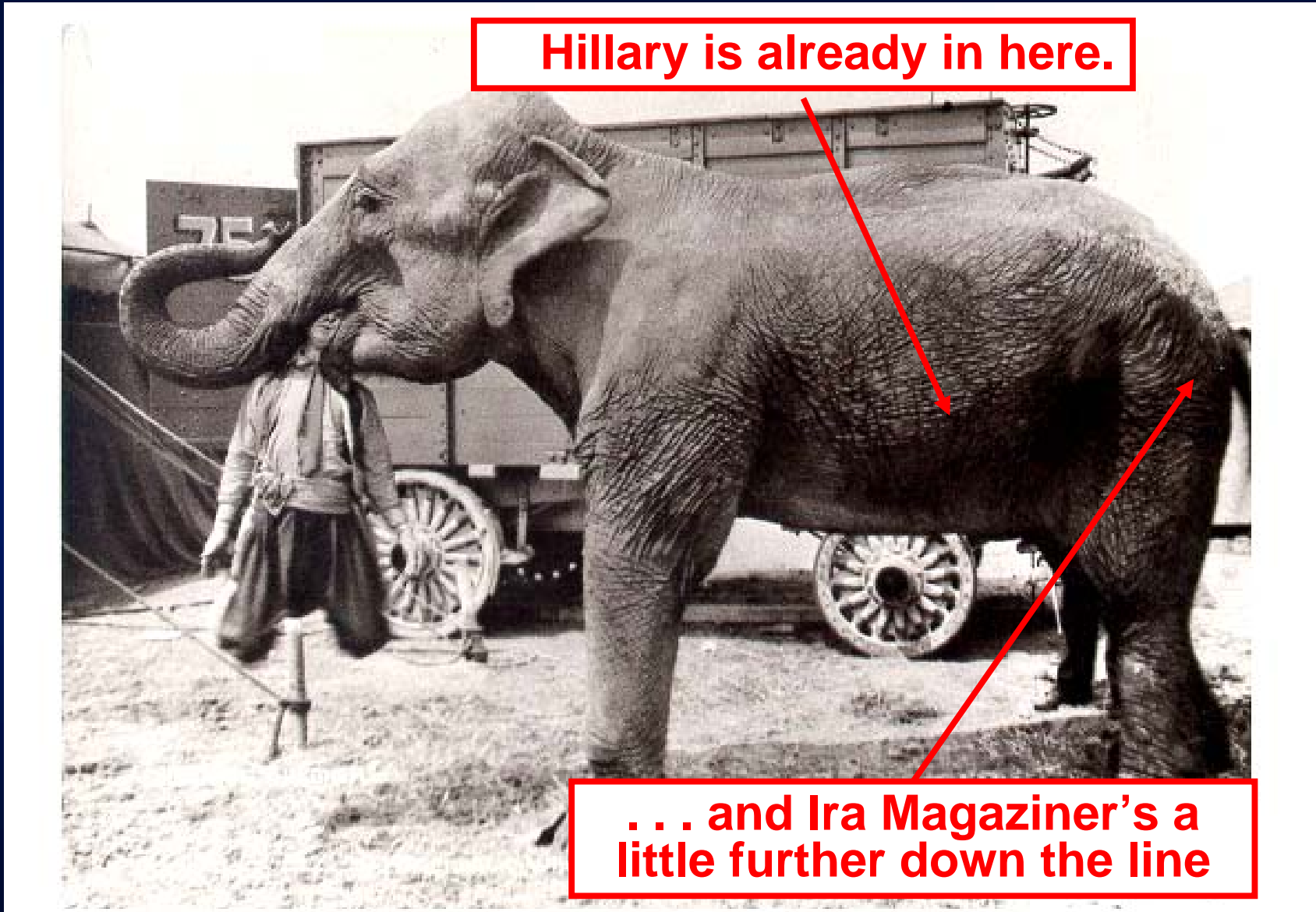
**Buyout firms
looking for
tender morsels**

**Employers
& Insurers**

Congress



PRESIDENT CLINTON TRYING TO TAME THE BEAST, 1993-94



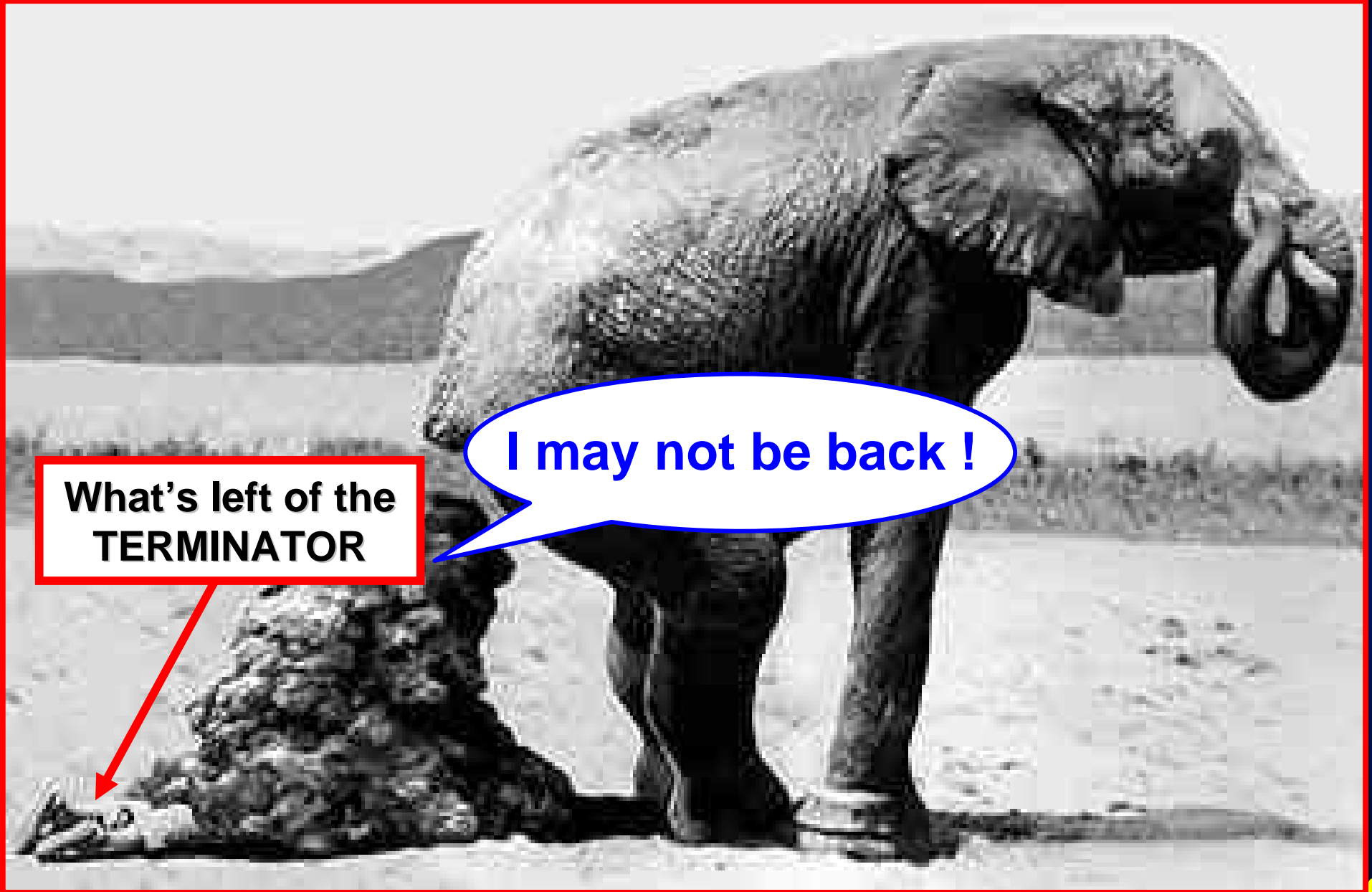
Hillary is already in here.

... and Ira Magaziner's a little further down the line

PRIVATE INSURERS TRYING TO TAME THE BEAST



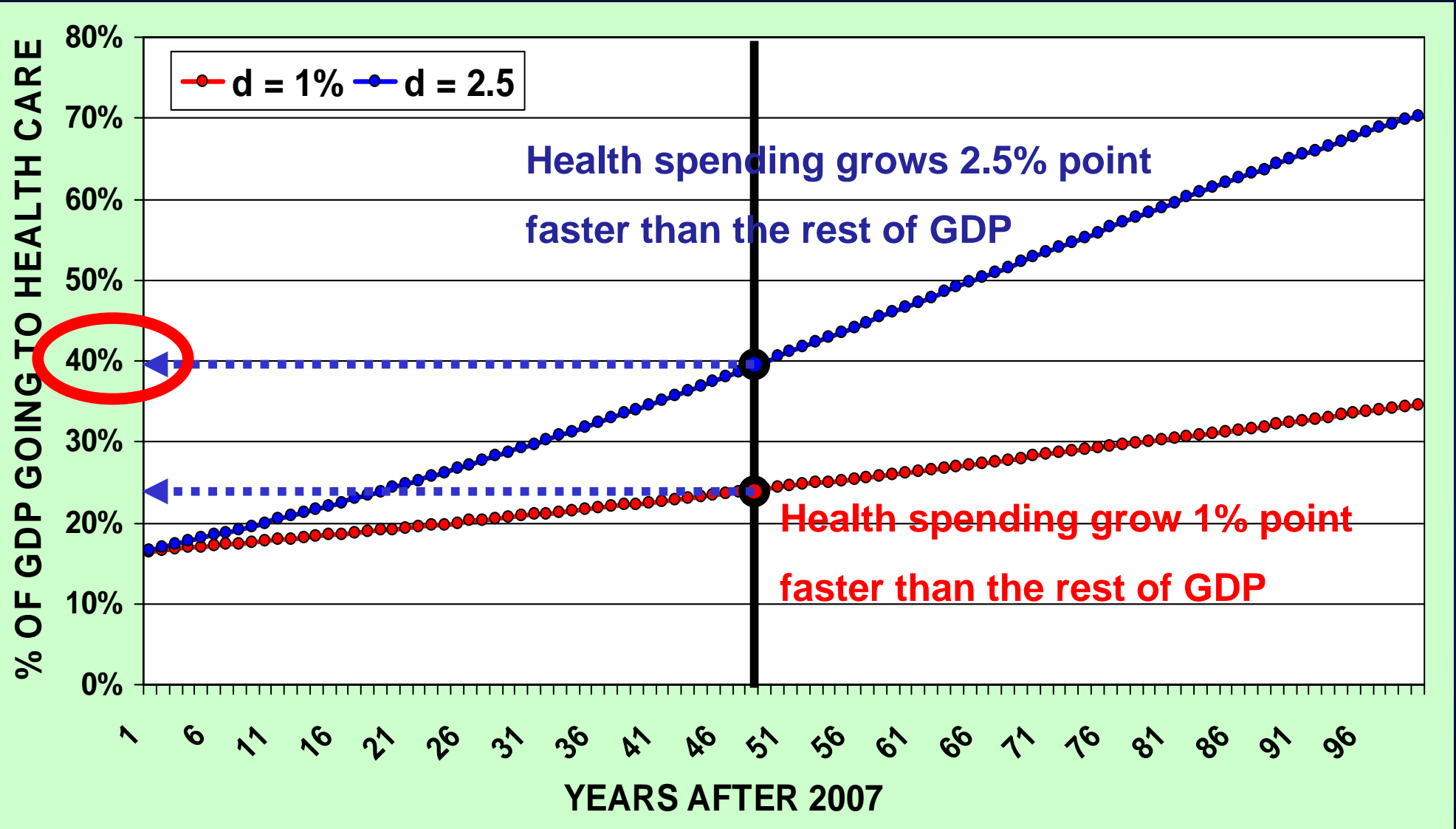
GOVERNOR SCHWARZENEGGER MEETING THE BEAST



What's left of the
TERMINATOR

I may not be back !

PROJECTED U.S. HEALTH SPENDING AS PERCENT OF GDP



Recently the U.S. Congressional Budget Office came out with a very similar projection.

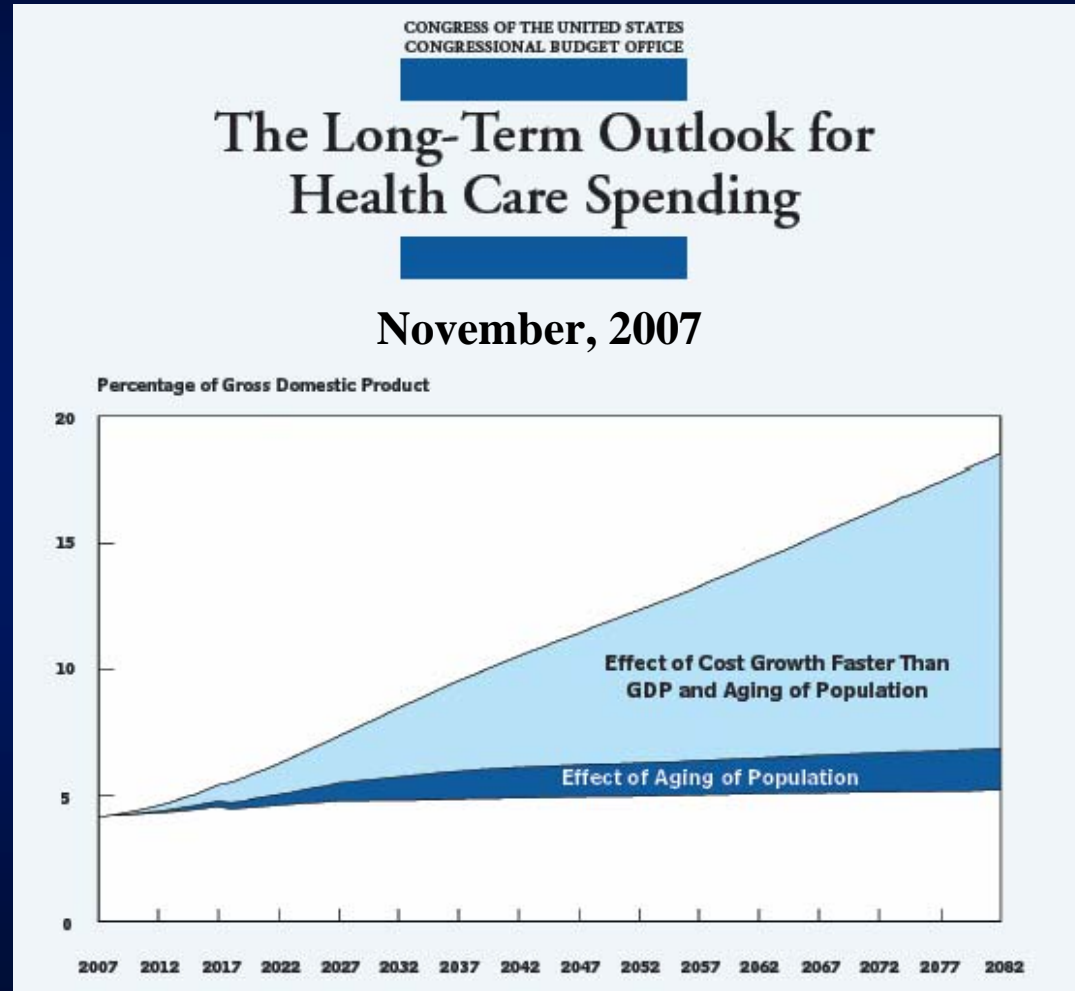
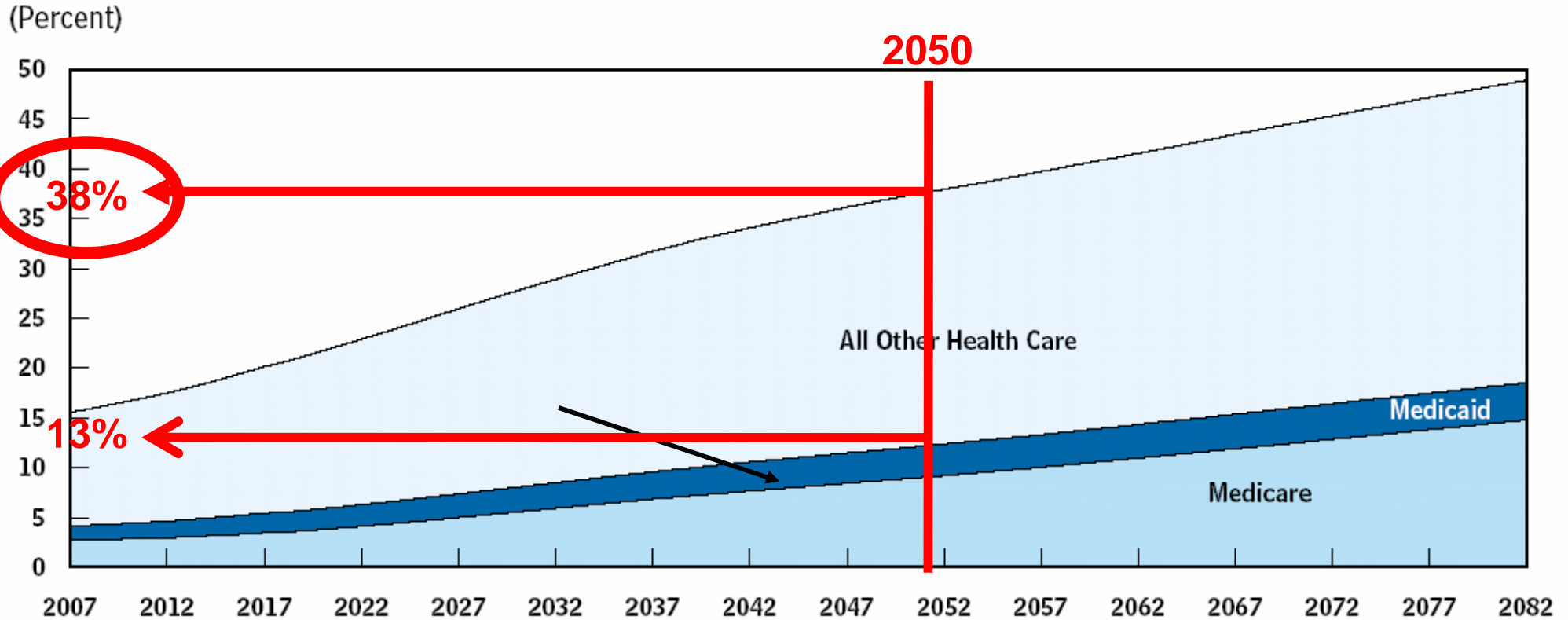


Figure 4.

Projected Spending on Health Care as a Percentage of Gross Domestic Product



Source: Congressional Budget Office.

Note: Amounts for Medicare are net of beneficiaries' premiums. Amounts for Medicaid are federal spending only.

ECONOMIC TRENDS IN U.S HEALTH CARE:

Implications for Investors

I. THE MACRO-ECONOMIC ENVIRONMENT

II. ECONOMIC TRENDS IN HEALTH CARE

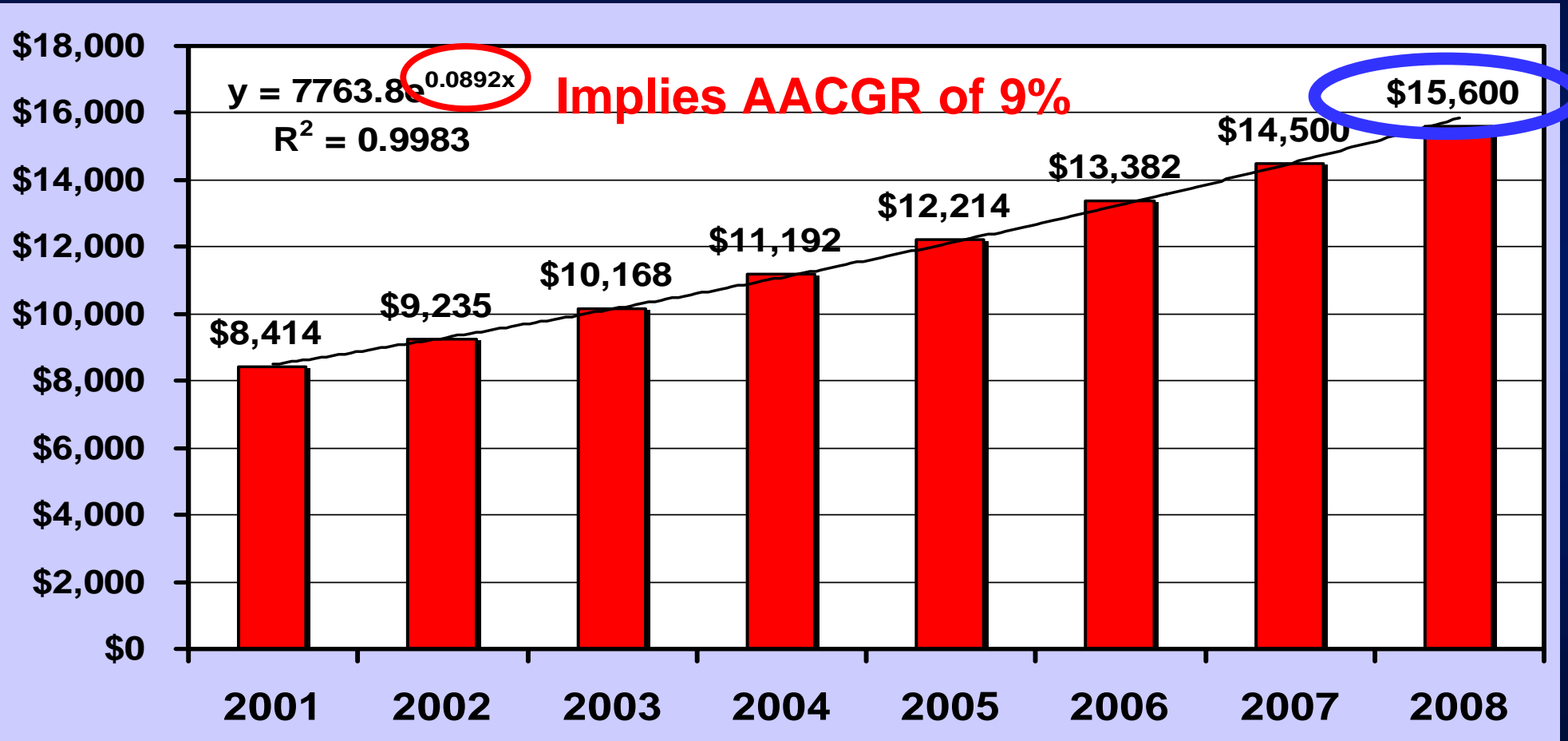
A. Health spending trends: past and future

B. Pricing the lower-middle class out of health care

MILLIMAN MEDICAL INDEX (MMI)

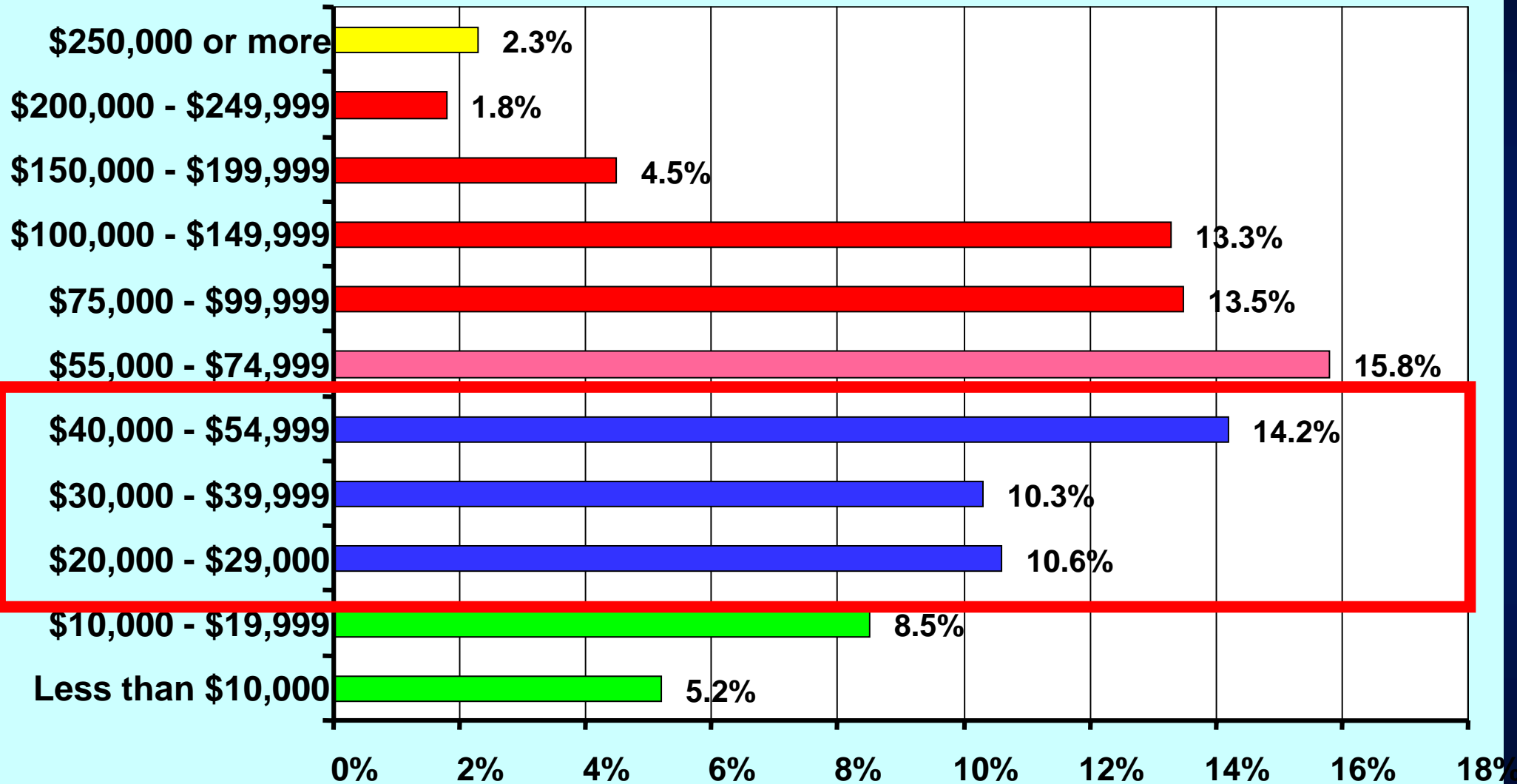
Average Annual Medical Cost for a Family of Four

(Employers' and Employees' Premium + Out-of-Pocket Costs)



DISTRIBUTION OF FAMILY MONEY INCOME, UNITED STATES, 2005

Average income \$73,304 (Median about \$56,000)

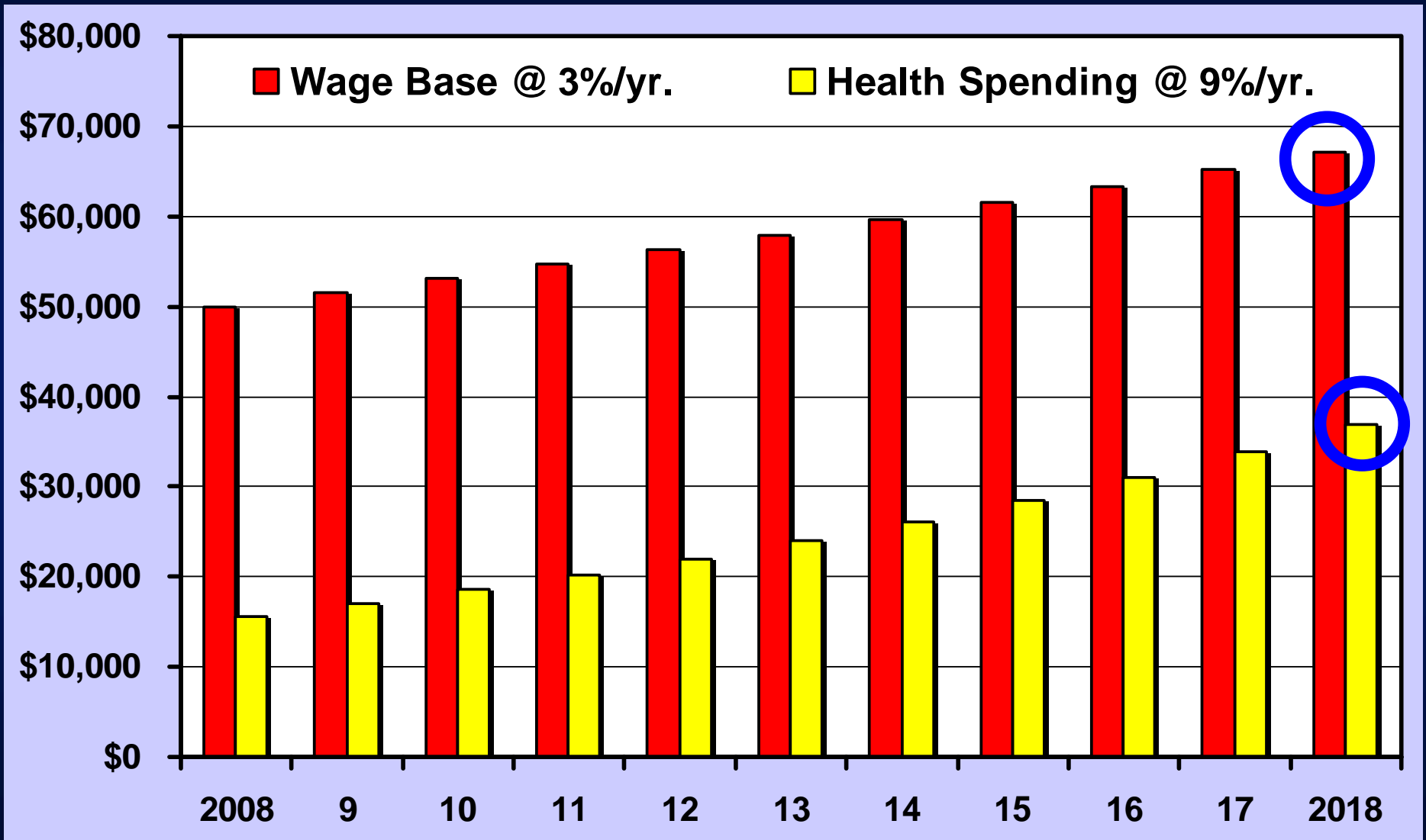


SOURCE: U.S. Bureau of the Census, 2006 Annual Social and Economic Supplement, Table FIN-07;

http://pubdb3.census.gov/macro/032006/faminc/new/07_000.htm

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GROWTH IN HEALTH INSURANCE PREMIUM RELATIVE TO WAGE BASE, 2008 - 2017



SAILING INTO THE PERFECT STORM

Employers will respond to these trends in two phases:

- 1. Initially employers will shift more and more of the cost of insuring their workers onto the workers themselves through high-deductible health plans.**

But this merely shifts the costs of health care to each worker's household budget -- especially to the chronically ill -- who must then pay the high deductibles year after year.

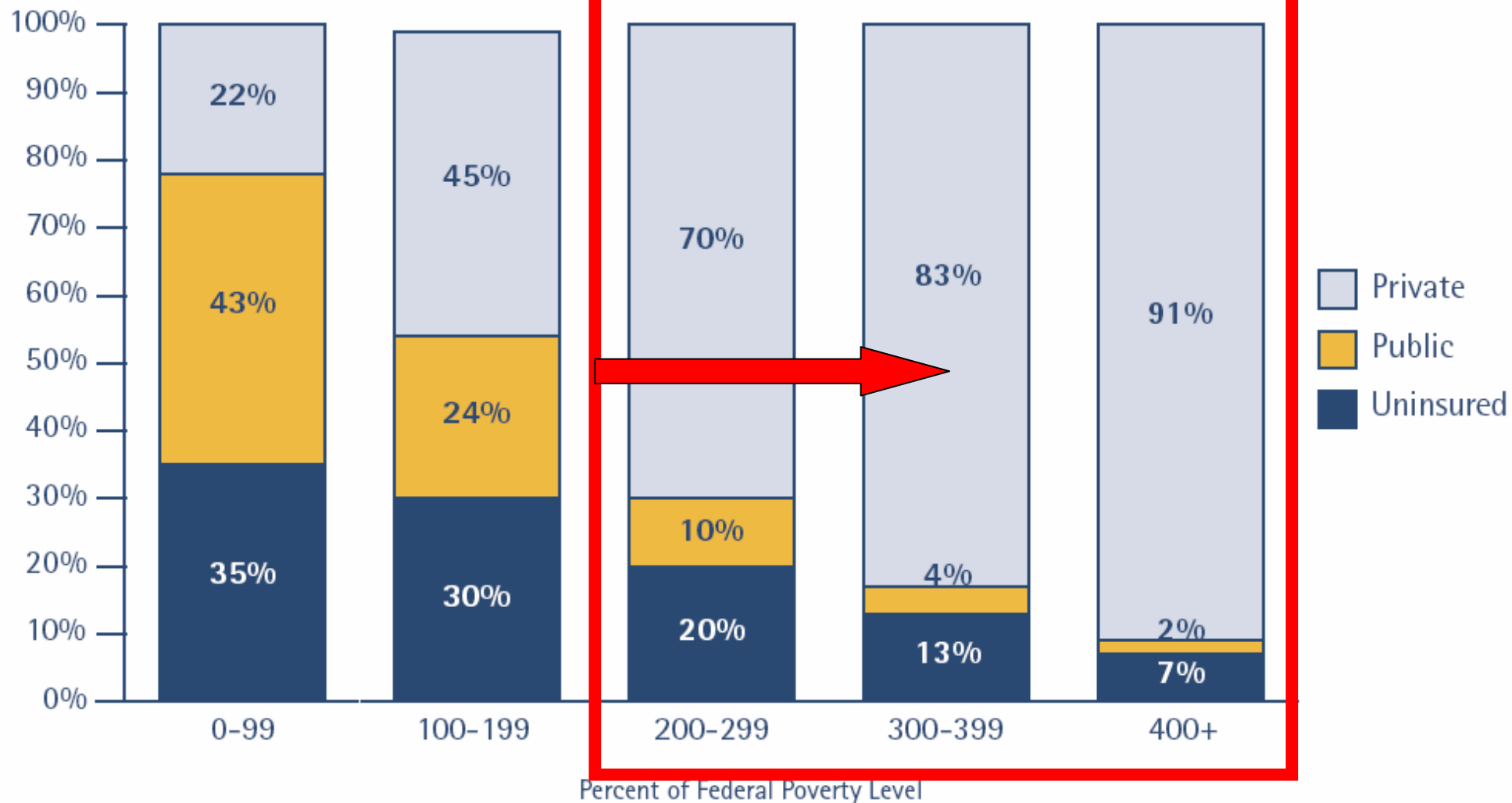
It is definitely not good news for pharmaceutical companies.

SAILING INTO THE PERFECT STORM

Employers will respond to these trends in two phases:

1. Initially they will shift more and more of the cost of insuring their workers onto the workers themselves. That won't solve these workers' problems, of course.
- 2. Eventually employers who now still do provide health insurance to low-wage workers will stop providing health insurance to these employees altogether, forcing low-income households into the much more expensive non-group market for health insurance, or simply to go uninsured.**

FIGURE 3: COVERAGE TYPE BY FEDERAL POVERTY LEVEL 2006



Note: Persons reporting both private and public coverage during 2006 are classified as private. Percents may not sum to 100 percent due to rounding.
 Source: NIHCM Foundation analysis of data from the March 2007 Current Population Survey.

TAKE-HOME POINT

Sometime during the forthcoming decade, Americans will have to decide

1. whether they are willing to vote for a sizeable tax-and-transfer program in health care (~ \$125 b/year) to help finance health care for families in the bottom half of the income distribution

or

2. formally embrace rationing health care by income class, perhaps through reference pricing all around.

2008 HEALTH SPENDING PER CAPITA OF PRIVATELY INSURED AND UNINSURED AMERICANS

FULL-YEAR
UNINSURED

\$1,686 = 43% of Privately Insured

FULL-YEAR
PRIVATELY
INSURED

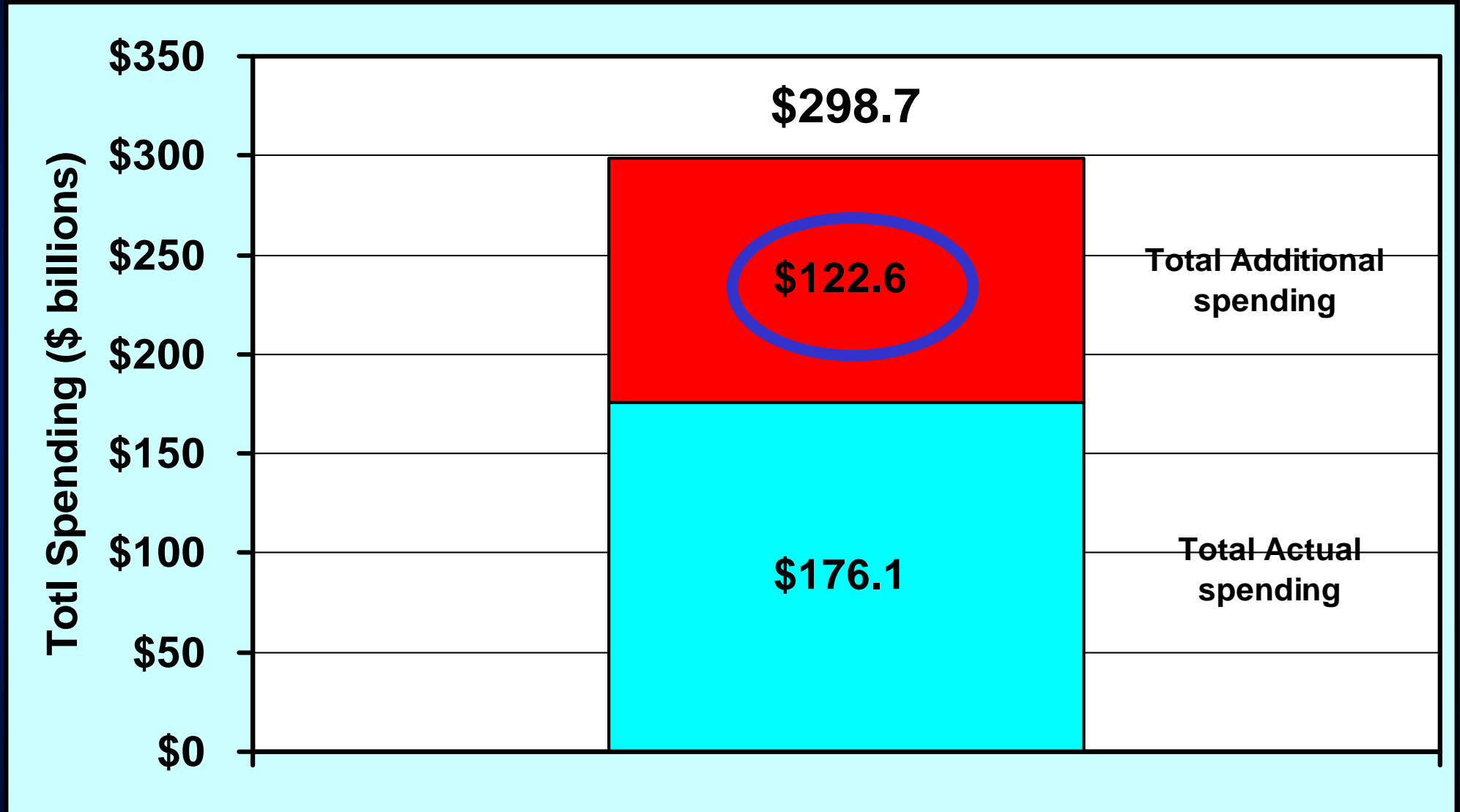
\$3,915

\$0 \$500 \$1,000 \$1,500 \$2,000 \$2,500 \$3,000 \$3,500 \$4,000 \$4,500

SOURCE: Jack Hadley et al., "Covering the Uninsured in 2008: Current Costs, Sources of Payment, and Incremental Costs,"
HEALTH AFFAIRS WebExclusive (25 August, 2008): Exhibit 1.

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SIMULATED INCREASES IN TOTAL 2008 HEALTH SPENDING BY THE UNINSURED IF THEY WERE FULLY INSURED



SOURCE: Jack Hadley et al., "Covering the Uninsured in 2008: Current Costs, Sources of Payment, and Incremental Costs," *HEALTH AFFAIRS WebExclusive* (25 August, 2008): Exhibit 5.

ECONOMIC TRENDS IN U.S HEALTH CARE:

Implications for Investors

I. THE MACRO-ECONOMIC ENVIRONMENT

II. ECONOMIC TRENDS IN HEALTH CARE

III. THE PROSPECT FOR HEALTH REFORM

PRESIDENT OBAMA'S REFORM PLAN

- 1. Would create a new National Health Exchange (akin to the FEHB) through which small businesses, and individuals or families not covered by public- or employment-based insurance, can purchase health insurance.**
- 2. Would create a new public health insurance plan for such businesses or individuals and families that would offer comprehensive benefits like those under the FEHB plans.**
- 3. Would grant income-related subsidies for low-income individuals and families toward the purchase of health insurance, which would be mandated only for children.**

PRESIDENT OBAMA'S REFORM PLAN

- 4. Would expand Medicaid and SCHIP.**
- 5. Would partially socialize catastrophically high health care costs in the employment based system, which would be retained.**
- 6. Would provide small business refundable tax-credits for up to 50% of the premiums paid on behalf of employees.**
- 7. Would mandate “guaranteed issue” and “community-rated premiums” on private insurers.**

Basically, President Obama would fill gaps in the existing system, rather than reform it radically, as others (e.g., Sen. McCain or the Wyden-Bennett Bill) would have done.

The sleeper in the plan may be proposed new public plan for Americans under age 65.

Conservative critics see in that idea the first step of a long march towards a single-payer, government-run system.

THE PROSPECTS FOR THIS REFORM

- 1. A sizeable expansion of SCHIP may come as soon as February.**
- 2. Major inroads into the rest of the uninsured – especially the unemployed – may come within this year, as it can be sold on both moral grounds and as part of the stimulus package.**
- 3. Public health information infrastructure investments may come later, and when it does, the health sector will suffer greater price transparency and hence greater margin pressure among providers.**

ECONOMIC TRENDS IN U.S HEALTH CARE:

Implications for Investors

I. THE MACRO-ECONOMIC ENVIRONMENT

II. ECONOMIC TRENDS IN HEALTH CARE

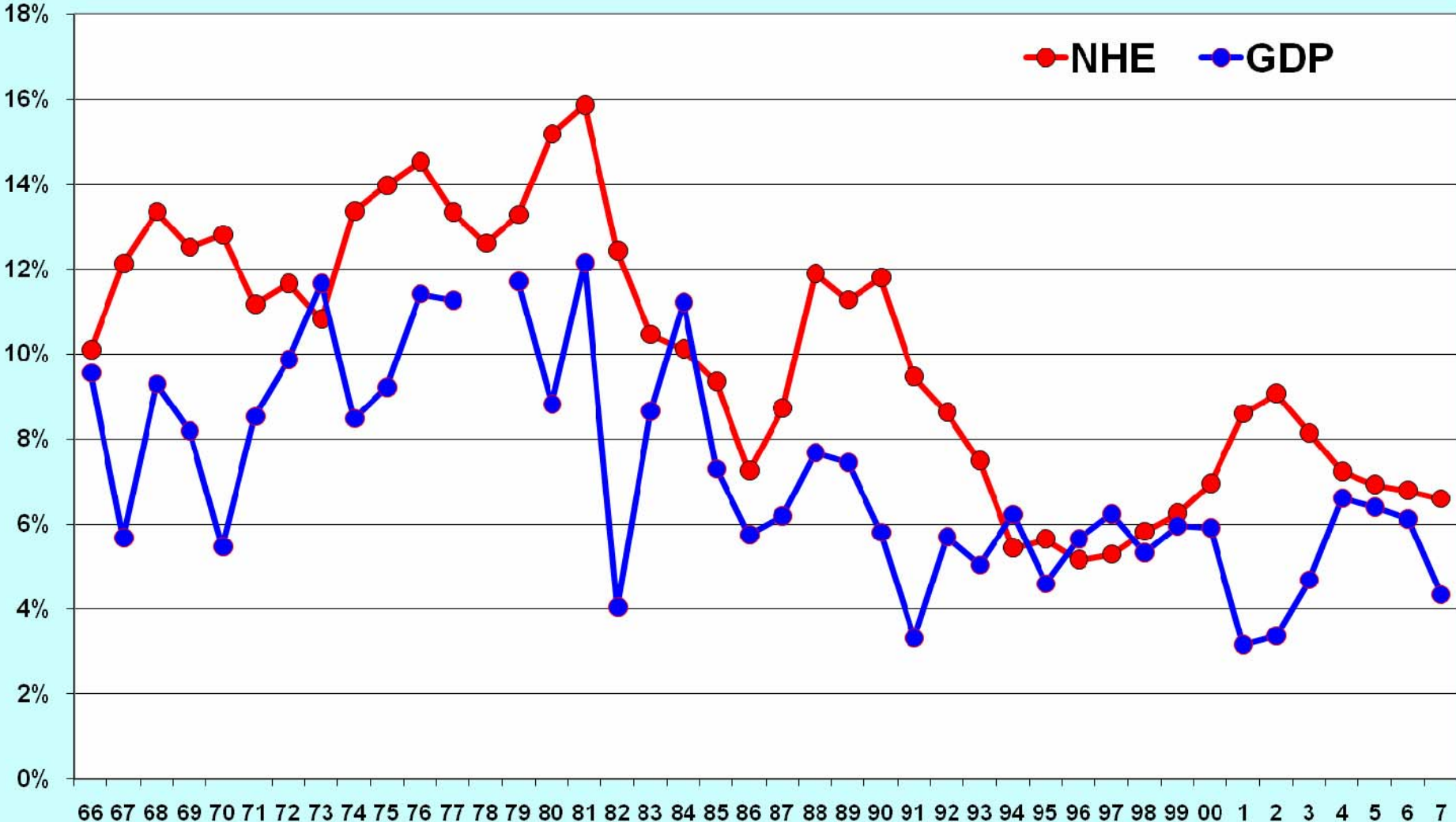
III. THE PROSPECT FOR HEALTH REFORM

IV. IMPACT ON THE BUSINESS OF HEALTH CARE

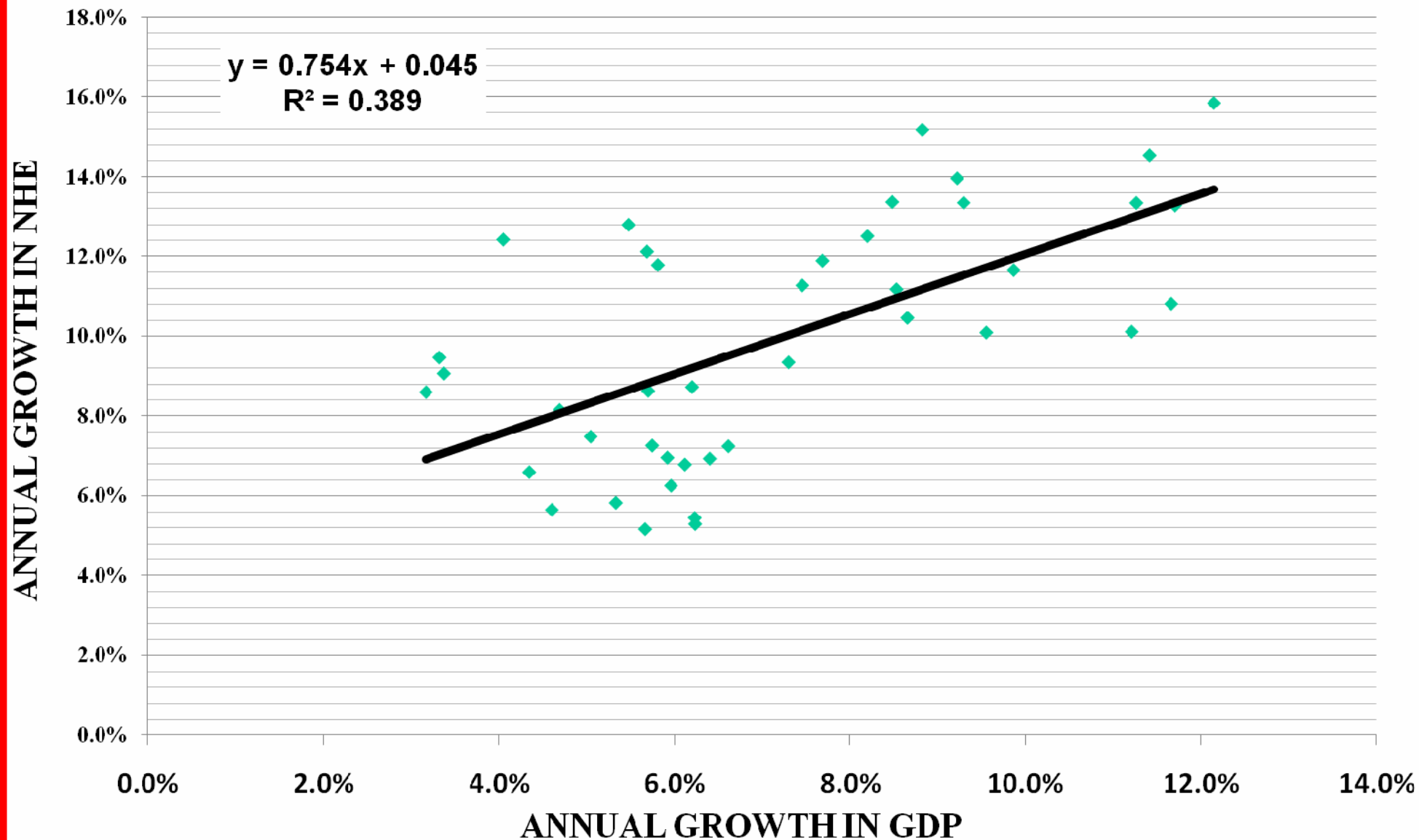
What happens to national health spending (NHE) – pardon, to national health care income – when gross domestic product (GDP) grows less rapidly or even falls?

Answer: there is a positive correlation, usually manifest with a one- to two-year lag, but it is weak enough to make health-care related securities by and large “defensive” investments in a recession.

ANNUAL GROWTH OF HE AND GDP, 1966-2007



GROWTH OF NHE ON GROWTH OF GDP 1966-2007



ECONOMIC TRENDS IN U.S HEALTH CARE:

Implications for Investors

I. THE MACRO-ECONOMIC ENVIRONMENT

II. ECONOMIC TRENDS IN HEALTH CARE

III. THE PROSPECT FOR HEALTH REFORM

IV. IMPACT ON THE BUSINESS OF HEALTH CARE

A. The hospital sector

- 1. Basically, hospitals are mature, low-margin businesses, but a steady business.**
- 2. Aging will drive admissions and revenue per admission only slightly and very gradually.**
- 3. Technology and physicians seeking added income will continue to move more and more hospital care into the ambulatory sector, out of the hospital's buildings and books.**
- 4. Many stand-alone non-profit hospitals will find it hard to procure debt-capital and donor-capital and will seek to partner with larger health systems, for-profits among them.**

4. Hospitals will be increasingly subjected to transparency on their pricing and the quality of their care.

The rampant price discrimination in the sector – which has no socially beneficial purpose – may well come to an end in this decade.

Table 6.1:

**Medicare Payments for Inpatient Care During the Last Two Years of Life of Medicare Beneficiaries
(Ratio of New Jersey Hospital's Data to Comparable U.S. Average, 1999-2003)**

	Inpatient Reimbursements	Hospital Days	Reimbursements per Day	CMS Technical Quality Score
St. Michaels Medical Center	3.21	2.34	1.37	0.91
Kimball Medical Center	2.32	1.26	1.83	0.95
Raritan Bay medical Center	1.86	1.85	1.01	0.81
Christ Hospital	1.83	1.83	1	0.59
St. Mary's Hospital Hoboken	1.75	1.72	1.02	0.74
Beth Israel Hospital	1.58	1.86	0.85	0.83
Overlook Hospital	1.27	1.36	0.94	0.90
Medical Center at Princeton	1.17	1.26	0.93	0.94
Atlantic Medical Center	1.11	1.12	0.97	0.89

Source: Data supplied to the Commission by John H. Wennberg, M.D., Director of the Dartmouth Atlas Project, December 2006.

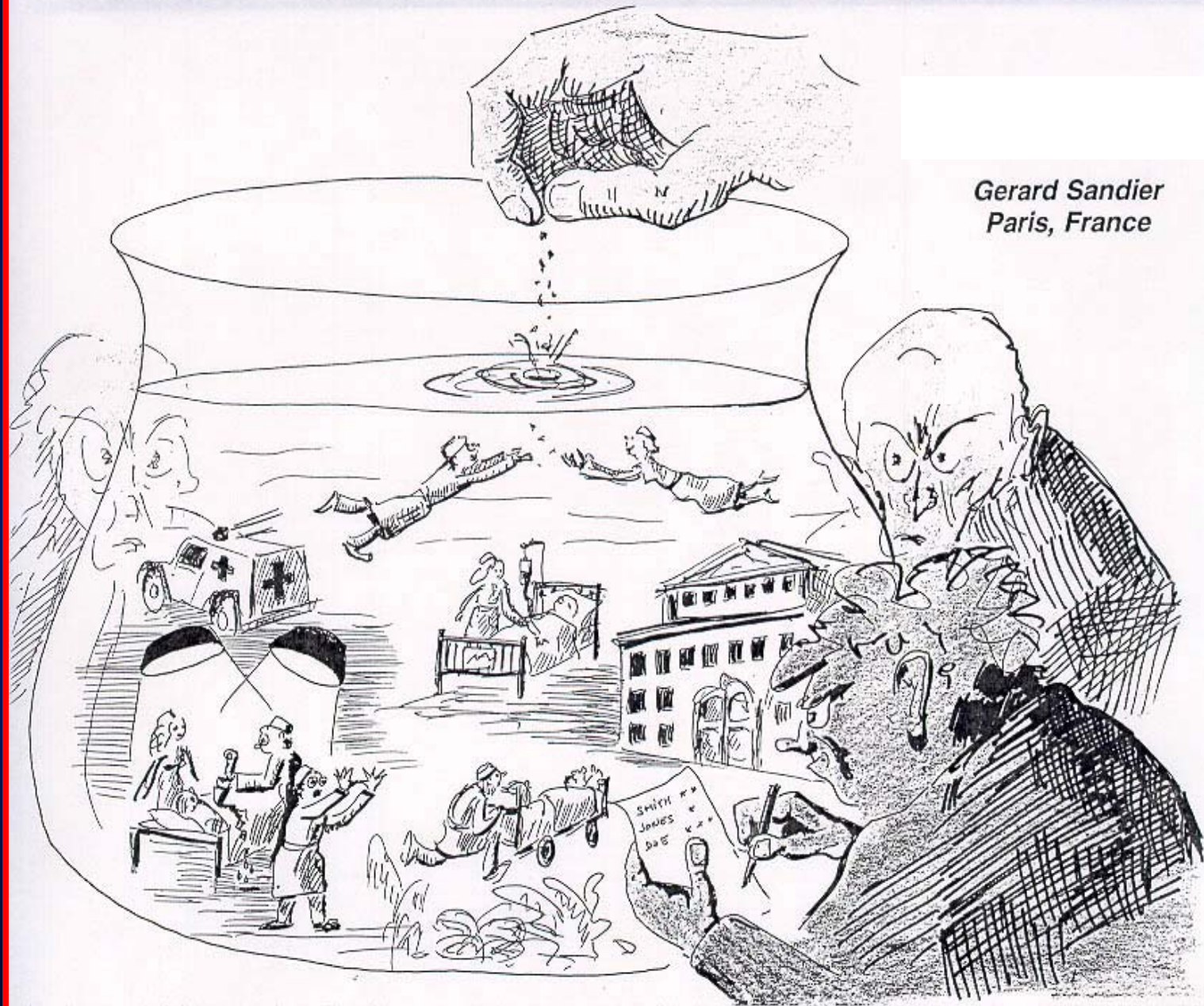
Table 6.5:

Payments by One California Insurer to Various Hospitals, 2007 (Wage Adjusted)

	Appendectomy ¹	CABG ²
Hospital A	\$1,800	\$33,000
Hospital B	\$2,900	\$54,600
Hospital C	\$4,700	\$64,500
Hospital D	\$9,500	\$72,300
Hospital E	\$13,700	\$99,800

¹ Cost per case (DRG 167)

² Coronary Bypass with Cardiac Catheterization (DRG 107); tertiary hospitals only.



Gerard Sandier
Paris, France

ECONOMIC TRENDS IN U.S HEALTH CARE:

Implications for Investors

I. THE MACRO-ECONOMIC ENVIRONMENT

II. ECONOMIC TRENDS IN HEALTH CARE

III. THE PROSPECT FOR HEALTH REFORM

IV. IMPACT ON THE BUSINESS OF HEALTH CARE

A. The hospital sector

B. The commercial health insurance sector

1. Private insurers' commercial book of business is likely to continue to shrink

- a. In the short run, because employers everywhere are cutting staff, even the private insurers themselves, and**
- b. Over the longer run, the rising cost of health care will drive millions of lower-middle class Americans in smaller business firms out of health insurance altogether.**

- 2. Acting as purchasing agents for public, social-insurance programs (Medicare, Medicaid, TRICARE) is a substitute.**
- 3. I believe, however, that the prospects for Medicaid Managed Care companies – albeit a thin-margin business – are better than those for Medicare Advantage plans, who are bound to lose the 12% to 20% tip they have gotten since 2003 for their work and that may have made them too comfortable.**
- 4. Because policy makers will focus sharply on administrative and marketing costs of the industry, I expect much more consolidation in the industry as smaller insurers will not be able to attain the necessary economies of scale.**

ECONOMIC TRENDS IN U.S HEALTH CARE:

Implications for Investors

I. THE MACRO-ECONOMIC ENVIRONMENT

II. ECONOMIC TRENDS IN HEALTH CARE

III. THE PROSPECT FOR HEALTH REFORM

IV. IMPACT ON THE BUSINESS OF HEALTH CARE

A. The hospital sector

B. The commercial health insurance sector

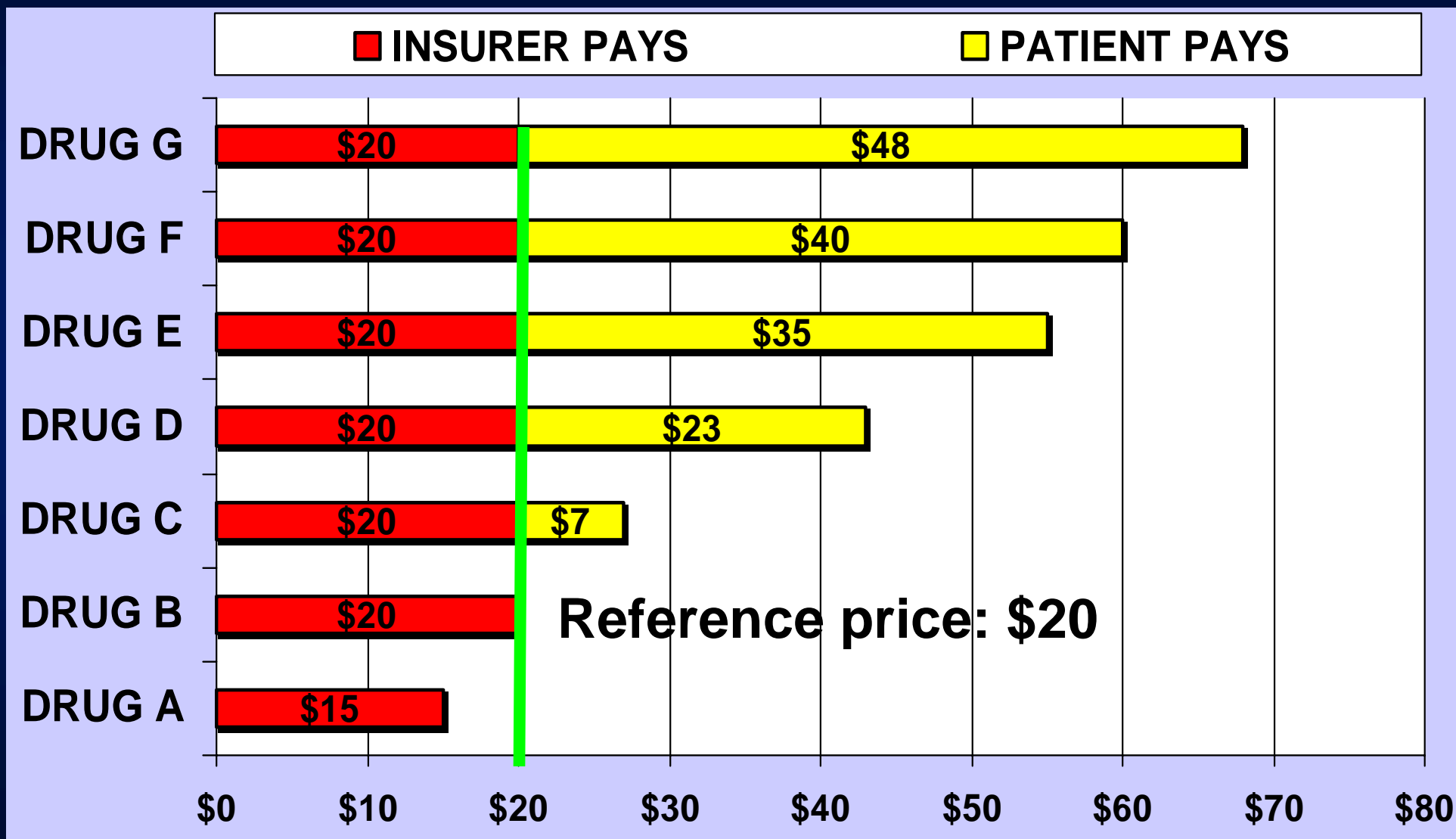
C. Pharma and biotech

- 1. Over the longer run, the industry should have a bright future, as it could produce many of the labor-saving innovations in health care America desperately needs.**
- 2. Alas, in the shorter run of the next half-decade or so, the pharmaceutical industry is driving towards the much forecasted “patent cliff” of 2010-11.**
- 3. Thus, generics, already two thirds of all scripts (although less than half of revenue), will continue to make inroads into what used to be an on-patent business.**
- 4. Because about 40% to 70% of the U.S. industry’s revenue comes from abroad, changes in foreign-exchange rates (FX) can throw a monkey wrench into any good business plan.**

1. Finally, hard-pressed commercial insurers, under their own margin pressure, along with rising cost sharing by patients may lead to widespread application of reference pricing for pharmaceuticals.

AN ILLUSTRATION OF REFERENCE-PRICING

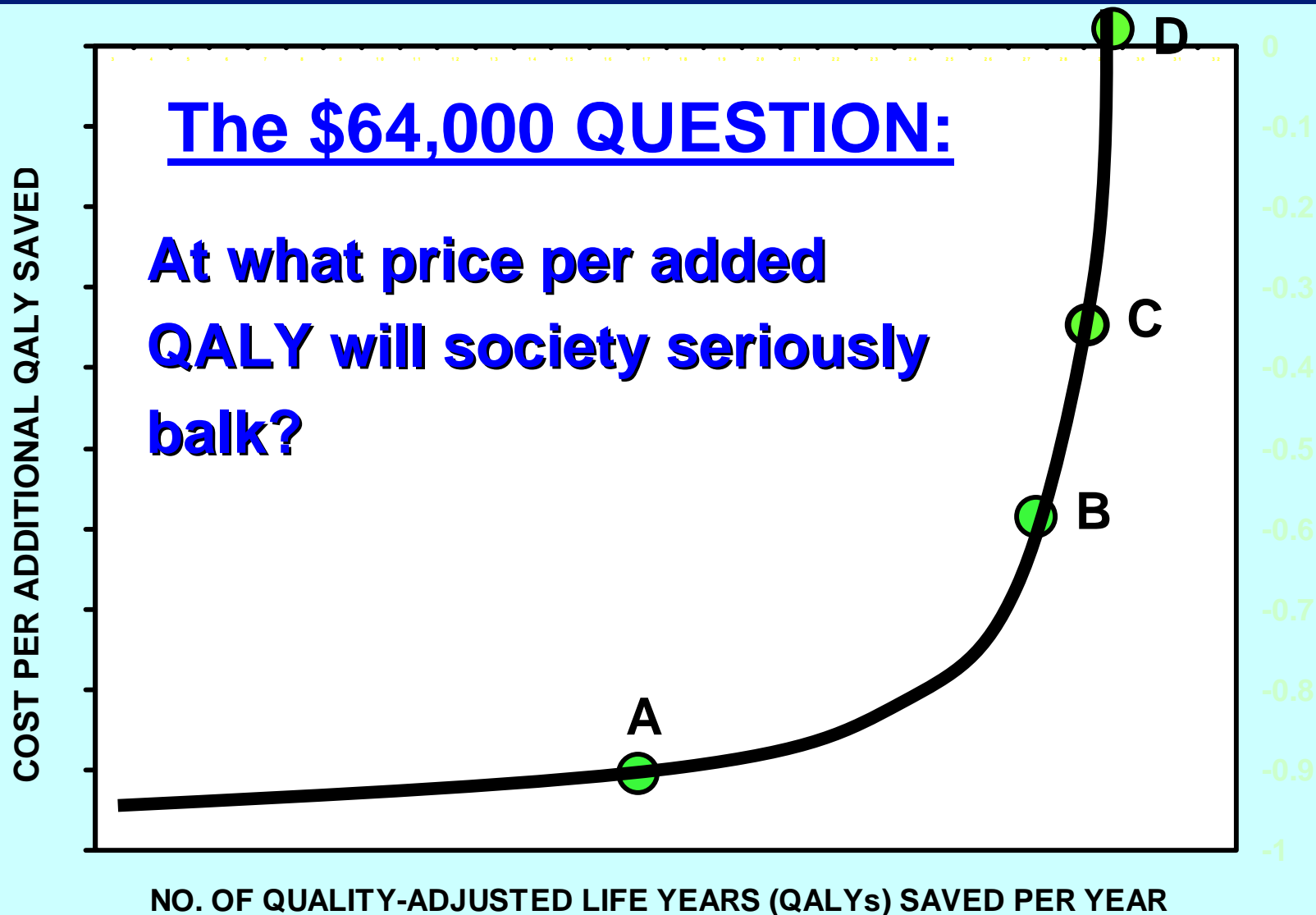
Drugs in the same therapeutic class



1. Finally, hard-pressed commercial insurers, under their own margin pressure, along with rising cost sharing by patients may lead to widespread application of reference pricing for pharmaceuticals.
2. **I expect further consolidation in the industry to enhance the productivity of R&D spending, along with a more active search for deals with smaller biotech firms that have potential – marrying innovativeness with marketing prowess.**

However, pushback is already developing on the high prices of some of these specialty drugs whose cost-effectiveness strikes commercial insurers as too low.

THE SUPPLY CURVE FOR QUALITY-ADJUSTED LIFE YEARS WRESTLED FROM NATURE BY A HEALTH SYSTEM



ECONOMIC TRENDS IN U.S HEALTH CARE:

Implications for Investors

I. THE MACRO-ECONOMIC ENVIRONMENT

II. ECONOMIC TRENDS IN HEALTH CARE

III. THE PROSPECT FOR HEALTH REFORM

IV. IMPACT ON THE BUSINESS OF HEALTH CARE

A. The hospital sector

B. The commercial health insurance sector

C. Pharma and biotech

D. Medical devices

- 1. This industry, too, ought to have a bright future in the long run, as it can (a) produce labor-saving new technology and (b) develop new products whose benefits society truly will appreciate .**
- 2. But in the short run the industry will encounter price- and margin pressure, which could become more acute if the nouvelle vague in payment of providers – singular payments for bundled services going into the treatment of illnesses – really catches on.**
- 3. Besides, should foreign currencies fall in value relative to the dollar (FX), this industry also would face additional top-line pressure.**

ECONOMIC TRENDS IN U.S HEALTH CARE:

Implications for Investors

I. THE MACRO-ECONOMIC ENVIRONMENT

II. ECONOMIC TRENDS IN HEALTH CARE

III. THE PROSPECT FOR HEALTH REFORM

IV. IMPACT ON THE BUSINESS OF HEALTH CARE

A. The hospital sector

B. The commercial health insurance sector

C. Pharma and biotech

D. Medical devices

E. The health-IT industry

1. Having suffered from benign, confused and frustrated neglect in the past two decades, the coming decade may be the industry's Renaissance.

1. Having suffered from benign, confused and frustrated neglect in the past two decades, the coming decade may be the industry's Renaissance.
- 2. President-Elect Obama has made it clear that he considers public investments in HIT not only a good economic stimulus but, over the long run, a necessary tool to attain better cost-effectiveness in American health care (either lower costs or great benefit per dollar spent.)**

Most policy wonks and many politicians agree.

THE END