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HSA HEALTH-INSURANCE PLANS AFTER FOUR YEARS: What Have We Learned?

Benjamin Zycher
Senior Fellow
Manhattan Institute for Policy Research

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Executive Summary

This paper reports the available data on the characteristics of Health Savings Accounts (HSAs) and the progress they have made in enrolling Americans and drawing them away from traditional, comprehensive insurance plans. Authorized by federal law in 2003, HSAs are financial instruments linked to high-deductible health insurance plans (HDHPs). They allow households to set aside tax-free funds for routine medical expenses.

We report data showing that these policies are now used by over 6 million U.S. residents and that their use is growing at a rate higher than the one at which the assets in individual retirement accounts (IRAs) accumulated in the first years following their authorization. We also found that HDHPs cover preventive-care services (physicals, immunizations, and other recommended screenings) at a rate that other types of insurance do.

The brief history of HSA-qualified plans suggests that they are likely to continue to expand their market share significantly over time, especially if policymakers take steps to make them more economical and easier to understand.

The rationale for HSAs extends beyond giving U.S. households greater control over their health-care expenditures. The spread of HSAs, it was hoped by their authors, would strengthen the economy and finances of the nation. U.S. economists, policymakers, and business leaders have long voiced concern about the nation's rapidly rising health-care costs. Health-care inflation has for many years outstripped both general inflation and income growth. U.S. spending on health care already represents 17 percent of GDP and is predicted to go to 20 percent by the year 2016. If the 46 million Americans lacking health insurance were to obtain it under the present system, the disparity would be wider still.

One important factor contributing to the escalation of health costs is the exemption of employer-provided health insurance funds, and the resulting benefit, from taxation, despite the fact that health insurance is undoubtedly a form of employee compensation. The exemption encourages employers to offer and employees to demand health-insurance plans with low-deductibles (paid with after-tax dollars) and high premiums (paid with pre-tax dollars). This arrangement effectively transforms coverage that is a vehicle for protection against catastrophic costs into a system of pre-payment for routine expenses.

Because this tax preference is linked to employment, individuals who are self-employed, employed by businesses that don't offer a health-insurance benefit, or who are unemployed must purchase "unsubsidized" health insurance, i.e., insurance purchased with after-tax dollars. It is the costliness of these premiums that is a major reason that so many Americans have not obtained health-care coverage.

Congress, in the Medicare Reform Act of 2003, best-known for extending prescription drug coverage to America's elderly, created a new, more flexible way in which Americans could obtain less expensive insurance coverage as well as save tax-advantaged funds to offset health expenses. This portable savings vehicle is known as a Health Savings Account (HSA).

Either at their place of business or on their own, enrollees can direct to their HSA some portion of annual income on which they do not have to pay income tax. The funds deposited there can then be withdrawn, tax-free, to pay health-care bills not covered by insurance. For such funds to be "HSA-qualified," as defined by the IRS, the insurance policies to which they are attached have to feature high deductibles—for 2009, a minimum of $1,150 for individuals and $2,300 for families. However, such plans for that reason and others typically carry significantly lower premiums than the comprehensive plans ordinarily offered by employers.

Policymakers hoped that HSA accounts linked to high-deductible health plans would offer the uninsured an affordable vehicle for obtaining at least catastrophic insurance coverage, while also encouraging discipline in discretionary health-care spending, thus slowing the rate of inflation in health-care costs.

Since any funds expended would be an HSA owner's own, it was expected he would show caution in seeking discretionary health care and also "shop" for cost-effective treatments. For instance, he would probably want to substitute less expensive generic drugs for branded medications.

To the extent that the policyholder was able to control his consumption of less necessary health-care services (but not preventive services such as checkups and vaccinations, which are in most cases covered on a "first-dollar" basis), funds could accumulate and appreciate year after year in these accounts, until such time that more serious ailments, which are typically more expensive to treat, should arise. Even though those suffering from chronic illnesses would be less likely than healthy enrollees to have funds left at the end of the year to roll over, they might also find such policies worthwhile financially.

Once the deductible and then a ceiling on out-of-pocket expenditure for co-insurance had been reached, holders of HSA-qualified insurance would be fully protected against major or catastrophic illnesses and accidents, making HSA-qualified insurance more like traditional car or homeowners' insurance, for example.

Policyholders in workplace plans would retain ownership of the account if they should leave the job where the account was established; however, contributions could continue only if a subsequent employer as well offered an HSA-qualified plan.

This paper's chief findings regarding HSAs are the following:

- The number of individuals covered by HSA-qualified and high-deductible health plans, as a proportion of all those covered by private insurance, shows a rate of growth slightly higher than the rate at which the quantity of assets in IRAs in their early years reached an equal fraction of total retirement assets. (The latter criterion is used in the absence of enrollment figures.) The early data on defined-contribution assets as a proportion of total retirement assets are more difficult to interpret, but the data on the whole suggest that HSA-qualified health coverage has the potential to expand at least as sharply over time as IRAs and defined-contribution retirement plans did, assuming conducive legal and regulatory developments.
- Suggesting even further room for improvement, survey data indicate that relatively low percentages of consumers are "extremely or very" familiar with HSA-qualified health coverage or find such plans "easy to understand."
- Less than half the funds in HSA accounts in 2007 were expended on health care, demonstrating these accounts' viability as savings vehicles.
- Premiums for HSA-qualified policies are significantly lower than those for other types of plans—by about 10 percent to 40 percent.
- A wide range of preventive-care services counts toward plan deductibles (or are covered on a "first-dollar" basis) under most HSA-qualified policies. Unsurprisingly, the rates at which enrollees in HSA-qualified plans draw on preventive care or rely on treatment of chronic illness are roughly equal to the rates shown by policyholders in comprehensive plans.
- While the ceiling for out-of-pocket spending by holders of high-deductible plans (including HSA-qualified plans) covering workers and their families tends to be higher than it is for other types of health plans (although the available data do not allow an estimate of how significant that difference is), there is some evidence that higher deductibles are almost entirely responsible for higher out-of-pocket expenditures. Out-of-pocket expenditures are, of course, only one element of total plan costs. The data for coverage purchased in the non-group market are more mixed.
- For both covered workers and individuals, deductibles for HSA-qualified policies are significantly larger—by multiples of 1.2 to 4.7—than the deductibles for the other types of health coverage plans. But the deductibles for HSA-qualified plans recently have risen much more slowly.

- Because spending on chronic illness, unlike spending on prevention under most HSA-qualified plans, does not enjoy first-dollar coverage, the chronically ill would be likely to draw down their HSA funds before they have time to accumulate. Even so, the right combination of a given plan's deductibles, its out-of-pocket ceiling, and the marginal tax rate of a chronically ill person could make HSA-qualified coverage a better bargain than a traditional comprehensive insurance plan.

Adoption of the following financial incentives for consumers would lessen the advantage that the tax code provides to employer-based plans at present:

Tax policy:

- Payroll taxes now imposed on amounts employees direct to their HSAs should be lifted.
- Insurance premiums for HSA-qualified insurance purchased in the non-group market should be made deductible from income taxes.
- Funds in an HSA account should be allowed to cover all "qualified medical expenses," as the tax code defines them, so long as they have been incurred after HSA-qualified coverage begins, and the account is established by, say, April 15 of the following year, as enrollees in retirement plans receiving tax preferences are allowed to do.
- Sums paid by patients to their primary-care physicians for the right to receive medical services on an as-needed basis should be deemed qualified medical expenses.

Insurance policy (financial):

- At present, the most that an HSA participant might have to spend in a given year exceeds the amount that he is allowed to place in his HSA savings account. The contribution maximum should be raised to match the limit on out-of-pocket expenditures, so that he does not have to pay out more than he has put in.
- Policyholders should be permitted to pay insurance premiums with funds deposited in HSAs.
- Spouses aged 55 and over should be allowed to make catch-up, or extra, contributions to a single health savings account up to the maximum allowable for a couple, instead of being required to establish a second account.
- High deductibles for hospital and chronic care should be lowered, since they are unlikely to discourage excessive consumption of health-care services, because of the non-discretionary nature of treatment of acute or incurable conditions.

Insurance policy (treatment):

- Many HSA policies offer first-dollar coverage of preventive services, such as vaccinations and physicals. A greater variety of prescription drugs should be defined as "preventive," so that their cost to the patient would count toward a policy's deductible. The same benefits should be extended to the management of chronic health conditions, such as diabetes.

Legislative:

- Congress should allow participants, after turning 65, to continue to contribute to their HSAs, although they have become Medicare recipients.
- Simplification of HSA-qualified insurance would enable clear comparisons with other types of plans, help familiarize consumers with its features (with the assistance of insurers and employers) and might expand the benefits to be obtained.

About the Author

BENJAMIN ZYCHER is a senior fellow at Manhattan Institute's Center for Medical Progress and a member of the advisory board of the quarterly journal *Regulation* and the advisory councils of Consumer Alert and USA for Innovation. During the first two years of the Reagan administration, Zycher was a senior staff economist at the president's Council of Economic Advisers. He is also a former senior economist at the RAND Corporation, a former vice president for research at the Milken Institute, and a former member of the board of directors of the Western Economic Association International. He holds a Ph.D. in economics from the University of California Los Angeles (1979) and a master's degree in public policy from the University of California Berkeley (1974).

Zycher's research focuses on the economic and political effects of regulation, government spending, taxation, and counterterrorism public expenditures. He has done considerable work on health-care policy and the economics of the pharmaceutical sector and on energy and environmental policy. He is the author of "Defense Economics" and "OPEC" in *The Concise Encyclopedia of Economics* (2008).

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I. INTRODUCTION: SOME BACKGROUND ON HSA-QUALIFIED HEALTH COVERAGE

Health coverage obtained through employers enjoys a substantial tax advantage, significantly distorting the economics of both health insurance and health care. Specifically, the premiums paid by employers and employees for employment-based coverage are excluded from taxable income, but deductibles and co-payments are not. Due to this tax subsidy, the premiums in question are typically high, and the annual deductibles are consequently low, encouraging policyholders to be not as careful as they might be when deciding whether to seek medical care, and when they decide which health-care goods and services to seek.

One response to this problem was Congress's enactment of the Medicare Reform Act of 2003. A section of this law created a new class of health coverage that could be obtained either at one's place of work or in the non-group market. Those plans meeting certain federal requirements could be coupled with Health Savings Accounts, into which covered individuals and their employers would be permitted to direct pre-tax dollars, where they could accumulate tax-free. They could then be withdrawn, also without incurring any tax liability, to meet their associated policies' deductibles and out-of-pocket co-payments. HSA-qualified plans have higher deductibles and, in many cases, higher out-of-pocket spending limits as well as lower premiums

than traditional policies. In most other respects, the two kinds of plans are similar.

The central objectives of this new type of health coverage/savings account, from the standpoint of after-tax cost to the consumer, were to *level* the playing field between employer-provided health coverage and coverage purchased outside of employment, to increase the *control* that policyholders/patients had over their health-care expenditures, and to offer stronger incentives to *economize* on the consumption of health care services while preserving protection from large or catastrophic medical expenditures. If large numbers of Americans chose to enroll in HSA-qualified plans, the combination of lower premiums and lower consumption would have a good chance of restraining the growth of aggregate health costs.

We now have four years of experience with HSA-qualified health coverage. This paper examines the available data so as to identify what is already known and what additional analysis needs to be undertaken. For example, the behavior of large groups of policyholders should be analyzed to determine whether high-deductible insurance in fact strengthens discipline in the consumption of health-care services. In addition, more analysis is needed of the impact on health if high-deductible coverage should succeed in reducing health-care consumption.

This paper also inquires into the prospects for meaningful growth in the spread of HSA-qualified plans by comparing the rate at which individuals obtained coverage in its first four years, as well as the rate at which it gained share in the private insurance market, with the rate at which assets in analogous tax-advantaged savings vehicles—Individual Retirement accounts (IRAs) and 401(k) defined-contribution pension plans—accumulated. Finally this paper discusses how existing plans might be improved and made more appealing.

The Rationale for Health Savings Accounts. The Medicare Modernization Act, a federal law that took effect in 2004, is mostly known for the controversial new prescription drug benefit it offered under Medicare Part D. But this act also created Health Savings Accounts (HSAs), a new method by which Americans may save and pay for their medical care. HSAs are savings accounts for current and future medical expenses; the funds that individuals (and/or their employers) deposit, any interest accrued, as well as subsequent expenditures on medical care are exempt from federal (and often state) taxes—a substantial tax preference. However, these accounts must be coupled with health-insurance plans having particular features, the most important of which is a relatively large deductible. Such coverage is "HSA-qualified." As discussed more fully below, the central goals of this vehicle are twofold: 1) to give individuals greater say in choosing the coverage they want, both by de-linking coverage from employment and reducing the relative tax advantage that employer-provided coverage has in comparison with coverage purchased by individuals or families in the non-employer or other non-group market; and 2) to discourage excessive consumption of health care, considered to be one of the causes of escalating spending, by asking individuals to bear a higher proportion of the costs of the care they do consume. In short, HSA-qualified health coverage is intended to preserve coverage in years when health-care expenses are high—by providing insurance for "catastrophic" expenses—while also encouraging greater discretion by consumers as they incur low-cost and routine expenses.

The Tax Advantage for Employer-Provided Coverage. It is widely recognized that the market for health insurance in the United States is heavily distorted by the federal tax code's favorable treatment of employer-provided health insurance: While wages are taxed as ordinary income, the portion of the premiums for health-insurance policies that employers pay on behalf of their employees and their families is not taxed, even though it is undeniably a form of compensation.[1] Jonathan Gruber notes that "this tax subsidy makes health insurance, which is bought with tax-sheltered dollars, artificially cheap relative to other goods bought with taxed dollars, leading to over-insurance for most Americans."[2]

One outcome of the tax code's ability to induce taxpayers to obtain greater coverage than they would otherwise

is the popularity of policies that have relatively low deductibles and copayments (or coinsurance).[3] The tax code operates as follows: Taxpayers enjoy an exclusion of employer-paid premiums but must pay any deductibles with unsubsidized, after-tax income.[4] (Even first-dollar coverage provided by employer-provided insurance is not unusual in the United States.) This carrot-and-stick combination makes policies with relatively low deductibles and necessarily high but subsidized premiums the favorites of consumers.[5] By contrast, coverage purchased by individuals or families outside of their employment does not receive a tax preference. The probable net effect of this form of tax favoritism is less economical use of resources than a more pay-as-you-go policy would encourage, and thus rising costs for all.

The spread of savings accounts that have high deductibles but shelter the funds that participants contribute to them, plus a revision of the tax code to assure that health-care coverage provided by employers is treated no more favorably than coverage purchased in the open market, should lead to greater discipline in the consumption of health care.

According to the following 2006 assessment by the president's Council of Economic Advisers,

> Consider a scenario in which new policies successfully reduce [the growth of] future national health spending by one percentage point per year, through a combination of short-run quantity decreases, medium-term price decreases [for care], and long-run increases in cost-reducing technological change. If spending were to grow by 6 percent per year, instead of by 7 percent per year as currently projected, by 2025 the expected health share of GDP would be reduced from 22 percent to 18 percent.[6]

John C. Goodman, a prominent and longtime proponent of such plans, argued in 2004 that HSA-eligible coverage would create "a level playing field between third-party insurance and individual self insurance."[7] Senator Jim DeMint of South Carolina argued that offerings like HSAs "[turn] you into a shopper. And when you start shopping for health care, lots of good things start happening."[8] Senator Tom Coburn of Oklahoma, a physician, argued: "Expanding health savings accounts will help put consumers back in charge of their own health care."[9] These and other legislators thought that after the introduction of HSAs attached to compatible forms of health coverage, the tax-driven distortions of the U.S. health-care system would decline substantially. But only two years later, legislation to improve HSA coverage and the savings programs was introduced in Congress.[10]

We now have four years of experience with HSA-qualified health coverage. This paper presents how it has fared so far, what additional analysis needs to be undertaken, and how it might be improved. My research also investigated how popular such plans have become so far. Doing so permits me to estimate how likely they are, as time goes on, to accomplish the policy goals that inspired them.[11] I report on the plans' rate of uptake and then compare it with the rate of uptake of other forms of tax-favored savings accounts—Individual Retirement Accounts (IRAs) and 401(k) defined-contribution plans, which were established earlier and have proved to be highly popular with the American public.

Some Characteristics of HSA-Eligible Health Coverage. High-deductible health-insurance plans, as the name suggests, are plans with a relatively large fixed amount that the policyholder must pay for covered services in a given year before insurance benefits begin to be paid. Such health-insurance plans, if they meet several requirements imposed by the federal government, often are coupled with savings accounts funded with deposits to be used for health-related spending. Withdrawals from these accounts to pay deductibles, copayments, coinsurance and other out-of-pocket expenses, and a broad range of medical expenses not covered by insurance, as well as to pay insurance premiums under limited circumstances, are permitted. Funds not spent in a given year may be carried over to an unlimited number of subsequent years and used to meet expenses incurred then. They can also be withdrawn after age sixty-five for other purposes but will be taxed as ordinary income in that event. Whether or not they are coupled with

health savings accounts, these health-insurance plans often are referred to as HSA-qualified health plans. Contributions by either employers or individuals are exempt from federal income taxation, both when they are made and when they are withdrawn to meet approved health-care expenses.[12]

Sums expended on health care before a policy's deductibles are met are out-of-pocket expenses for policyholders. Sums withdrawn from health savings accounts to pay for health care, though some portion of them may have been contributed by employers, are also a cost for policyholders, encouraging them to exercise greater caution in the consumption of health-care goods and services, since amounts spent less prudently will be unavailable for later, more necessary, care. The greater the control that high-deductible health insurance, particularly when coupled with health savings accounts, gives policyholders over their spending, the greater the likelihood that that spending will be restrained.

The logic of these incentives works especially well with people who do not expect to exhaust, year after year, the funds they contribute, as the chronically ill might be expected to do. Others would be aware that some years hence they were likely to face large medical expenses, which would be met first by funds in the savings account, which had accumulated and appreciated year after year, until the out-of-pocket ceiling is reached, and then by the insurance provider in their entirety. Such plans introduce incentives to consume health-care resources less extravagantly, resulting in reduced aggregate growth in costs.[13] How those people who have signed up for HSA-qualified plans differ from those who have not, with respect to income, tax bracket, state of health, and subjective factors such as awareness of health costs and risks, is not yet evident.

The traditional purpose of insurance is the pooling of risks; in effect, each member of a large group of policyholders pays all the other members to bear any member's future costs to the extent that they exceed that member's deductible and maximum responsibility for out-of-pocket spending. Because of the ordinary law of large numbers, the proportion of a large group of individuals exposed to the risk that a low-probability adverse event will occur is almost always close to the statistically expected proportion actually experiencing the adverse event. That proportion usually is the average experienced over time. On this basis, members of the group can be assessed actuarially fair premiums—premiums reflecting losses expected statistically—plus some administrative cost, enabling the group as a whole to bear the now well-understood risks of the respective members.

"Insurance" Is Not "Prepayment." From the standpoint of the individual (or family), the purpose of health-care insurance is avoidance of what could be the highly adverse financial consequences of a serious illness or injury.[14] But the tax preference for employer-provided insurance has moved the system away from such efficient risk-pooling and toward a system of "prepayment" for health-care services—that is, smaller deductibles, copayments/coinsurance, and out-of-pocket maximums. Such a system has consequences for the overall economy: As the prices that patients (as opposed to third parties paying on their behalf) directly face fall below the (marginal) cost of the services they are provided, due to the lower deductibles they must pay and the copayment/coinsurance payments they must make, aggregate demand and costs inexorably rise.[15]

And so an additional goal of high-deductible health insurance is a reduction in the distortion of consumer choice caused by tax incentives favoring low-deductible or first-dollar coverage. Consider an individual choosing among plans with, respectively, deductibles of $250, $1,000, and $2,500. The coinsurance that the insured party pays after meeting the deductible is 20 percent in each of the plans, while the policyholder's out-of-pocket maximum expenditures are, respectively, $2,000, $3,000, and $5,000. The actuarially fair premiums in this simple example are, respectively, $4,000, $3,500, and $2,400.[16]

Assume that this policyholder makes no health-care expenditures in year one but suffers a $15,000 catastrophic event in year two. Table 1 illustrates the financial outcome for this individual under three alternative assumptions about tax preferences.

Table I. Effect of Current Tax Preferences on Two-Year Health-Care Costs to Individuals (dollars)			
Tax Preference	Two-Year Individual Cost		
	Low Deduct.	Medium Deduct.	High Deduct.
None	10,000	10,000	9,800
Premiums only	7,600	7,900	8,360
Premiums plus annual $2,500 HSA cont.	n.a.	n.a.	6,860

Source: Author computations; and American Academy of Actuaries, "The Impact of Consumer-Driven Health Plans on Health Care Costs"

Note: Assumes 30 percent marginal tax rate

n.a.: not applicable

This example is somewhat artificial—changes in the expected timing of catastrophic events and other assumptions might influence an individual's choice—but it does illustrate how the distortion created by tax policy can affect the relative perceived costs among insurance options. The tax distortion in this example, if applied only to insurance premiums (whether paid by employers or the covered party), should induce a shift toward policies with low deductibles. But this bias is corrected by the addition of a tax preference for HSA contributions accompanied by a high-deductible policy, which produces a lower total cost for the policyholder, not to mention whatever aggregate beneficial price effects that widespread adoption of high-deductible plans might produce.

Evidence on Costs and Health-Care Demands. The available empirical evidence on the question of whether a shift of costs onto patients reduces the amount of health care demanded tends to suggest that such a shift does.[17] The earliest evidence was provided by the RAND Health Insurance Experiment, conducted in the 1970s and early 1980s,[18] which provided free medical insurance to some families and graduated levels of cost-sharing (25, 50, and 95 percent) to others. In addition, the policies had a series of levels of out-of-pocket maximums, depending in part on family income. One variant imposed cost-sharing on the use of outpatient services but none on the use of hospital services. The analysis found that policyholders and issuers of policies with high deductibles spent about 30 percent less in total on medical care than they did when coverage was free; lower deductibles produced a 20 percent savings. Consumers facing large deductibles made between one and two fewer visits to physicians per year than those who did not have to worry about cost, and they were hospitalized less as well.[19]

There exists some evidence of the extent to which consumer-directed health plans reduce demand (or demand growth) for health-care services as well as their cost. Buntin et al. find "modest favorable health selection, one-time reductions in use and costs, and mixed effects on [health-care] quality."[20] Dixon, Greene, and Hibbard find evidence that enrollees in consumer-directed health plans are more likely than others to make "risky" cost-saving decisions.[21] Fronstin and Collins find that adults "in consumer-driven plans continue to be more cost-conscious … than those in comprehensive health plans" but that they "are more likely to skimp on needed medical care or medications because of cost."[22] Rowe et al. find that enrollees in consumer-directed plans use preventive and chronic-illness services to the same extent as enrollees in PPO insurance plans.[23] Greene et al. find that enrollees in high-deductible plans are more likely than those with different coverage to discontinue taking drugs belonging to two out of five classes.[24]

Evidence presented below (in Tables 9 through 11) strongly suggests that with the possible exception of policies that insured individuals (and families) in their twenties and that were purchased in the non-group market, HSA-qualified policies charge significantly lower premiums than other types of health coverage do. At least in this respect, they restrain costs. Below we examine how popular such insurance policies are proving to be, and their chances of reducing aggregate health-care costs.

Section II presents some basic data on HSA-qualified insurance policies. Section III discusses the growth in the number of individuals obtaining HSA-qualified coverage since 2005, and it then examines the growth of IRAs and 401(k)s and related vehicles for retirement savings enjoying tax preferences. Section IV discusses some potential problems afflicting the market for HSA-qualified plans, and offers some conclusions and policy recommendations.

II. SOME BASIC FACTS ABOUT HSA-QUALIFIED HEALTH INSURANCE

Deductibles under Alternative Types of Health Coverage. In general, consumer-directed health insurance plans that are "HSA-qualified" have higher deductibles and perhaps out-of-pocket spending limits, and lower premiums, than traditional health insurance plans, but otherwise resemble the latter.[25] For 2008, HSA-qualified plans for an individual must have annual deductibles of not less than $1,100 and not greater than $5,600, or, respectively, $2,200 and $11,200 for a family.[26] Table 2 presents data for 2007 and 2008 on average annual individual and family deductibles for workers enrolled in health-maintenance-organization (HMO) plans, preferred-provider plans (PPO), point-of-service (POS) plans, and HSA-qualified plans, respectively.

Table 3 presents data for 2006 and 2007 on the average individual and family deductibles of policies purchased in the non-group (or non-employer) market, for HMO, PPO/POS, indemnity, and HSA plans, respectively. Tables 2 and 3 show that the deductibles for HSA-qualified policies that both covered workers and covered individuals not members of a group have to pay are significantly larger—by multiples of between 1.2 and 4.7—than the deductibles specified in other types of health plans.[27] Recently, however, they have grown much more slowly.

Out-of-Pocket Spending Limits. Table 4 summarizes the available data on the range of out-of-pocket spending limits for individual workers enrolled in health-insurance plans in 2007 and 2008. Table 5 does the same for workers' family plans.[28]

Tables 4 and 5 strongly suggest that the out-of-pocket spending limits of high-deductible plans (including HSA-qualified plans) covering workers and their families tend to be higher than they are in other

Table 3. Average Annual Individual and Family Deductibles for Policies Purchased in the Non-Group Market, 2006–07 (dollars)

	HMO	PPO/POS	Indemnity*	HSA-Qualified
Individual coverage	615	1,747	2,369	2,905
Family coverage	1,234	2,753	2,741	5,329

* Indemnity plans, under which the insurer agrees to pay a fee for service to any provider chosen by the policyholder, are by definition not tied to a specific network of providers.

Source: America's Health Insurance Plans (AHIP), "Individual Health Insurance 2006–2007: A Comprehensive Survey of Premiums, Availability, and Benefits," December 2007, Tables 13 and 14

Table 2. Average Annual Individual and Family Deductibles for Covered Workers, 2007–08 (dollars)

Year/Plan Type	Individual Coverage	Family Coverage	Percent Change 2007–08	
2007				
HMO	401	759		
PPO	461	1,040		
POS	621	1,359		
HSA-qualified	1,923	3,883		
2008				
HMO	503	1,053	25.4	38.7
PPO	560	1,344	21.5	29.2
POS	752	1,860	21.1	36.9
HSA-qualified	2,010	3,911	4.5	0.7

Source: Kaiser Family Foundation-HRET, "Employer Health Benefits 2007 Annual Survey," Exhibits 7.5, 7.10, and 8.4; Kaiser Family Foundation-HRET, "Employer Health Benefits 2008 Annual Survey," Exhibits 7.5, 7.11, and 8.6; and author computations

Table 4. Distribution of Out-of-Pocket Spending Limits, Individual Workers' Coverage, 2007–08 (percent)

Spending limit	HMO	PPO	POS	HDHP/SO*	All Plans
$999 or less	9/8	8/5	5/7	4/2	7/6
$1,000–1,499	20/16	23/27	29/26	3/9	21/23
$1,500–1,999	35/36	20/18	20/21	10/9	23/20
$2,000–2,499	12/21	20/19	14/11	16/15	18/18
$2,500–2,999	4/3	9/9	11/11	17/13	9/9
$3,000 or more	21/17	20/21	21/24	50/53	22/23

* High-deductible health plans with a savings option. Includes both high-deductible plans with health-reimbursement arrangements and HSA-qualified plans. Health-reimbursement arrangements cannot be considered savings because they do not belong to the insured. See n. 11.

Note: Columns may not sum due to rounding. Data are for policies with specified out-of-pocket maximums.

Source: Kaiser Family Foundation-HRET, 2007, Exhibit 7.27; Kaiser Family Foundation-HRET, 2008, Exhibit 7.26

Table 5. Distribution of Out-of-Pocket Spending Limits, Workers' Family Coverage, 2007–08 (percent)

Spending limit	HMO	PPO	POS	HDHP/SO*	All Plans
$1,999 or less	12/8	11/7	8/7	5/1	10/7
$2,000–2,999	13/14	16/19	17/21	3/10	15/18
$3,000–3,999	38/29	25/25	27/12	3/10	24/22
$4,000–4,999	14/23	14/15	15/26	14/15	15/18
$5,000–5,999	6/4	12/8	16/14	22/15	12/9
$6,000 or more	17/21	22/26	17/19	53/50	24/27

* High-deductible health plans with a savings option. Includes both high-deductible plans with health-reimbursement arrangements and HSA-qualified plans. Health-reimbursement arrangements cannot be considered "savings" because they do not belong to the insured.

Note: Columns may not sum due to rounding. Data are for policies with specified out-of-pocket maximums.
Source: Kaiser Family Foundation-HRET, 2007, Exhibit 7.29; and Kaiser Family Foundation-HRET, 2008, Exhibit 7.28

kinds of plans. The high-deductible plans in at least half the cases have out-of-pocket spending limits of more than $3,000, in the case of workers' individual plans; and more than $6,000, in the case of workers' family plans.

Table 6 presents similar data on the out-of-pocket spending limits of individual policies purchased in the non-group market.

Table 7 presents the available data on out-of-pocket spending limits for family policies purchased in the non-group market.

Table 8 presents data on the weighted averages of the out-of-pocket spending limits in both individual and family non-group policies purchased in 2006–07.

The evidence summarized in Tables 6 and 7 is more mixed, as are the data in Table 8. For individual workers' HSA-qualified plans, Kaiser Family Foundation-HRET reports average out-of-pocket maximums, for 2007 and 2008, respectively, of $3,090 and $3,292; and for themselves and their families, they were $6,505 and $6,280, respectively.[29]

Note that Tables 3 and 8, which set out the differences among plan types in deductibles and out-of-pocket spending limits, suggest that higher deductibles are to some degree responsible for higher out-of-pocket expenditures.

Comparative Premiums. Table 9 summarizes the available data for 2007 and 2008 on average annual

Table 6. Distribution by Non-Group Plan Type of Out-of-Pocket Spending Limits for Individuals, 2006–07 (percent)

Spending limit	HMO	PPO/POS	Indemnity*	HSA-Qualified
$999 or less	0	0	2	0
$1,000–1,499	0	1	8	3
$1,500–1,999	35	4	15	7
$2,000–2,499	13	14	14	8
$2,500–2,999	0	6	18	23
$3,000–3,999	50	25	13	26
$4,000–4,999	1	16	7	9
$5,000–7,499	1	32	11	24
$7,500–9,999	0	2	10	0
$10,000 or more	0	1	3	0
Percentage without out -of-pocket limit	14	1	0	0

* Indemnity plans are those not tied to a specific network of providers.
Note: Columns may not sum due to rounding. Data are for policies with specified out-of-pocket maximums.

Source: AHIP, "Individual Health Insurance 2006–2007: A Comprehensive Survey of Premiums, Availability, and Benefits," December 2007, Table 15

Table 7. Distribution by Non-Group Plan Type of Out-of-Pocket Spending Limits for Families, 2006–07 (percent)

Spending limit	HMO	PPO/POS	Indemnity*	HSA-Qualified
$999 or less	0	0	2	0
$1,000–1,499	0	1	8	0
$1,500–1,999	0	5	17	0
$2,000–2,499	22	10	16	2
$2,500–2,999	1	12	19	2
$3,000–3,999	19	13	7	18
$4,000–4,999	31	17	2	13
$5,000–7,499	27	37	13	44
$7,500–9,999	0	5	15	4
$10,000 or more	0	2	3	18
Percentage without out-of-pocket limit	5	0	0	0

* Indemnity plans are those not tied to a specific network of providers.
Note: Columns may not sum due to rounding. Data are for policies with specified out-of-pocket maximums.

Source: AHIP, "Individual Health Insurance 2006–2007: A Comprehensive Survey of Premiums, Availability, and Benefits," December 2007, Table 15

Table 8. Weighted Average of Out-of-Pocket Spending Limits for Individual and Family Non-Group Policies, 2006–07 (dollars)

	HMO	PPO/POS	Indemnity*	HSA-Qualified
Individual coverage	2,383	4,054	6,137	3,483
Family coverage	4,388	4,410	7,664	6,020

* Indemnity plans are those not tied to a specific network of providers.

Source: AHIP, "Individual Health Insurance 2006–2007: A Comprehensive Survey of Premiums, Availability, and Benefits," December 2007, Table 15

premiums for insured workers obtaining individual and family coverage. The premiums for HSA-qualified policies are 35–40 percent lower than those for other types of plans and actually fell in 2008, according to the Kaiser-HRET survey. This finding is curious, given the fact that deductibles for HSA-qualified policies purchased for covered workers and their families did not rise markedly in the same period, as shown in Table 2. This finding may be an artifact of the particular survey sample represented in the Kaiser-HRET findings, or it may result from changes in the policies adopted by employers.

With the available data, it is not possible to distinguish among the various types of non-group plans. The data do, however, allow a rough comparison of premiums for the best-selling HSA-qualified plan with the weighted average of the premiums for all plans sold in the non-group market (including HSA-qualified plans); the data also allow a rough comparison of the respective premiums by age group. Table 10 presents the available data.

Because the computation of the weighted-average "All Plans" premiums in Table 10 includes premiums

Table 9. Average Annual Individual and Family Premiums for Covered Workers, 2007–08 (dollars)

Year/Plan Type	Individual Coverage	Family Coverage	Percent Change 2007–08	
2007				
HMO	4,299	11,879		
PPO	4,638	12,443		
POS	4,337	11,588		
HSA-qualified	3,826	9,666		
2008				
HMO	4,754	13,122	10.6	10.5
PPO	4,802	12,937	3.5	4.0
POS	4,647	12,330	0.2	6.4
HSA-qualified	3,527	9,101	-7.8	-5.8

Note: Annual premiums are the total paid by employers and employees. The differences in premiums between the HSA-qualified plans and the weighted averages for all plans are statistically significant at significance levels of 0.05 or lower.

Source: Kaiser Family Foundation-HRET, 2007, Exhibits 1.12 and 8.4; and Kaiser Family Foundation-HRET, 2008, Exhibits 1.1 and 8.6

Table 10. Average Annual Premiums for the Most Popular HSA-Qualified Plan and All Plans, Non-Group Market, 2006–07 (dollars)

Age Group	HSA-Qualified		All Plans	
	Individual	Family	Individual	Family
20–29*	1,519	3,825	1,442	3,377
30–54	2,278	5,125	2,702	5,555
55–64	3,724	7,170	4,722	8,369
All age groups	n.a.	n.a.	2,613	5,799

* Data for "All Plans" also refer to insured parties aged eighteen and nineteen.

n.a.: not available

Source: AHIP, "Individual Health Insurance 2006–2007: A Comprehensive Survey of Premiums, Availability, and Benefits," December 2007, Table 2; AHIP, "January 2008 Census Shows 6.1 Million People Covered by HSA/High-Deductible Health Plans," Table 4; and author computations

Table I1. Average Annual Premiums for the Most Popular HSA-Qualified Plan and All Other Plan Types, Non-Group Market, 2006–07 (dollars)

Age Group	HSA-Qualified		All Other Plan Types	
	Individual	Family	Individual	Family
20–29*	1,519	3,825	1,416	3,228
30–54	2,278	5,125	2,843	5,698
55–64	3,724	7,170	5,055	8,769
All age groups	n.a.	n.a.	n.a.	n.a.

* Data for "All Other Plan Types" include ages eighteen and nineteen.

n.a.: not available

Source: AHIP, "Individual Health Insurance 2006–2007: A Comprehensive Survey of Premiums, Availability, and Benefits," December 2007, Table 2; AHIP, "January 2008 Census Shows 6.1 Million People Covered by HSA/High-Deductible Health Plans"; and author computations

Table I2. Features of HSA-Qualified "Best-Selling" Plans (dollars)

Market	Deductible	Out-of-Pocket Maximum	Premium
Non-group			
Individual	2,600	3,661	n.a.
Family	4,846	7,057	n.a.
Small-group			
Individual	2,244	3,462	3,189
Family	4,356	6,690	8,125
Large group			
Individual	2,046	3,194	3,185
Family	3,998	6,110	8,241

n.a.: not available

Source: AHIP, "January 2008 Census Shows 6.1 Million People Covered by HSA/High-Deductible Health Plans," Tables 3, 5, and 6

for HSA-qualified policies, the difference between the average premiums for HSA-qualified plans and all other types of plans is likely to be greater still. Data published by AHIP show that as of its January 2008 census, about 25 percent of those covered by HSA-qualified policies were participants in plans purchased in the non-group market.[30] The presence of this 25 percent requires an adjustment in the computation of the all-plans averages, as shown in Table 11.[31] For the youngest age group, the HSA-qualified plans in the survey were about 10 percent more expensive; but note that the data do not include eighteen- and nineteen-year-olds, presumably the healthiest members of the cohort. For the other age groups, the HSA-qualified plans were less expensive by factors ranging from 11 percent to 36 percent.

Tables 9 through 11 strongly suggest that with the possible exception of premiums on non-group policies that individuals in their twenties purchase for themselves and their families, premiums for HSA-qualified policies are significantly lower than those for other types of health coverage.[32]

Table 12 presents summary data on the central features of the best-selling HSA-qualified plans, as of January 2008.

Preventive Care. The higher deductibles and out-of-pocket limits of HSA-qualified policies (at least those purchased in the employer group market) strongly suggest that those covered by them face higher prices (or a greater degree of cost-sharing) for health care (given their ability to roll over account funds indefinitely) than those who are not.

As noted above, one possible effect might be less consumption of not only inessential health care but of essential care as well, leading to greater expenditures down the line. Accordingly, federal policy allows (but does not require) HSA-qualified plans to cover preventive care on a first-dollar basis—that is, before the plan deductible is met. Ramthun notes that most HSA-qualified plans do offer coverage of at least some preventive services—whether at 100 percent or with a copayment/coinsurance—before the plan deductible

Table 13. Percentage of Covered Workers Receiving Preventive-Care Benefits before Meeting Deductibles, 2008			
HMO	PPO	POS	HSA-Qualified
85	89	88	86
Source: Kaiser Family Foundation-HRET, 2008, Exhibits 7.14 and 8.12			

is met.[33] Examples are periodic health evaluations and physical examinations, prenatal and well-child care, immunizations, smoking-cessation programs, obesity programs, and some drugs. Table 13 presents the available data on the extent of preventive-care coverage of insured workers by plan type.[34] The differences among them are quite small.

Table 14 shows the available data on cost-sharing for preventive services in HSA-qualified and high-deductible health plans in 2007. Roughly three-quarters or more of such plans have no cost-sharing for preventive services.

Table 15 presents the available data for 2007 on the percentage of HSA-qualified and high-deductible health plans offering various preventive benefits on a first-dollar basis. Most of the plans cover most preventive services on a first-dollar basis.

Rowe et al. found that enrollees in consumer-directed plans are using preventive and chronic-illness services at rates close to those of enrollees in PPO insurance plans.[35] Fronstin and Collins, comparing the rates of use of preventive-care services by people enrolled in high-deductible plans with the rates at which such services are used by enrollees in more comprehensive programs, made a similar finding.[36] However, among high-deductible plans in which preventive and screening services are not available on a first-dollar basis, Fronstin and Collins found some differences.[37]

Table 14. Cost-Sharing for Preventive Services, HSA-Qualified and High-Deductible Health Plans, 2007 (percent)					
Cost-Sharing	Plan Type				
	Non-Group	Small Group	Large Group	Jumbo Group*	All Markets
None	75	73	76	83	76
Copayment/coinsurance	25	27	24	17	24
* Employers with 3,000 or more employees					
Source: AHIP, n. 34, Table 6					

Table 15. Preventive Benefits Offered on a First-Dollar Basis, HSA-Qualified and High-Deductible Health Plans, 2007 (percent)					
Preventive Benefit	Plan Type				
	Non-Group	Small Group	Large Group	Jumbo Group*	All Markets
Infant/child well care	100	100	100	100	100
Colonoscopies	89	81	75	81	83
Immunizations	100	100	100	100	100
Mammograms	100	100	100	100	100
Pap smears	100	100	100	100	100
Annual physicals	100	100	100	100	100
Prostate PSA tests	100	100	88	92	89
Smoking cessation	96	85	26	35	26
* Employers with 3,000 or more employees					
Source: AHIP, n. 34, at Table 4					

III. THE GROWTH OF HSA-QUALIFIED PLANS AND TAX-PREFERENCED RETIREMENT SAVINGS VEHICLES

Early Participation in HSA-Qualified and High-Deductible Health Coverage. If HSA-qualified health coverage is to restrain the growth of health-care costs in the aggregate, it must appeal to ever-growing numbers of health-care consumers. Questions arise as to how its rate of adoption is to be measured, and then how to judge whether that rate is fast or slow. One difficulty is that while enrollment data on high-deductible plans in general are available, data on HSA-qualified policies in specific are not. However, it should be possible to make inferences about HSA-qualified policies' prospects for widespread adoption by comparing the rate of adoption of high-deductible plans in general over the almost four years for which data on HSA-qualified plans exist with the rate of adoption over similar intervals of other kinds of tax-advantaged savings plans—namely, individual retirement accounts (IRAs) and defined-contribution retirement-savings plans such as 401(k) plans—that feature longer histories.

Table 16 presents the available data on the growing numbers of people covered by HSA-qualified and high-deductible health insurance for the period 2004/2005 through 2007. Note that the data in Table 16 may underreport coverage under such policies due to incomplete reporting in the AHIP survey; as of January 2008, about 6.1 million individuals were covered under such plans.

The subject of Table 17 is the number of U.S. residents covered by private insurance and the proportion of them covered by HSA-qualified and other high-deductible insurance. The large increases in the rate at which HSA-qualified/high-deductible coverage has grown reflect the low base from which it started; in fact, the rate of increase has tapered off as the numbers of enrollees have become larger. Even so, after only four years of availability, HSA-qualified and other high-deductible insurance plans achieved a 3 percent market share by 2007, indicating the possibility that HSA-qualified coverage can become an important part of the private health-insurance market.

The Kaiser Family Foundation-HRET reports that among firms offering health benefits, 2 percent offered an HSA-qualified option in 2005, 6 percent in 2006, 7 percent in 2007, and 11 percent in 2008.[38] Among those not offering an HSA-qualified option in 2008, 4 percent reported themselves as "very likely" to offer one in 2009, and 21 percent as "somewhat likely."[39] Kaiser-HRET also reports that while the percentage of workers enrolled in HSA-qualified plans increased from 3 percent in 2007 to 4 percent in 2008, worker enrollment in other types of high-deductible plans was constant at 3 percent,[40] perhaps demonstrating the relative attractiveness of HSA-qualified plans. However, it should be noted that the average annual premiums of other types of high-deductible plans for individuals rose sharply in this period—by 14.7 percent (0.7 percent for family coverage)—while premiums for HSA-qualified plans, according to the Kaiser-HRET survey, appear to have fallen, as shown in Table 9.[41]

Table 16. Health-Care Coverage under HSA-Qualified and High-Deductible Health Insurance (thousands of covered individuals)

Market	Survey Period			
	March 2005	January 2006	January 2007	January 2008
Non-group	556	855	1,106	1,502
Small group	147	510	1,057	1,816
Large group	162	679	2,044	2,777
Other group*	88	247	291	13
Other*	77	878	34	10
All markets	1,031	3,168	4,532	6,118

* Refers to firms failing to report market breakdown of HSA/HDHP coverage

Source: AHIP, "January 2008 Census Shows 6.1 Million People Covered by HSA/High-Deductible Health Plans," Table 1

Table 17. Total Private U.S. Coverage and HSA-Qualified and High-Deductible Coverage 2004–07

Year	HSA-Qualified High-Deductible (thousands)	Change (percent)	Total Private (thousands)	Change (percent)	HSA-Qualified High-Deductible/Total (percent)
2004*	1,031	—	200,924	—	0.5
2005	3,168	200.1	201,167	0.1	1.6
2006	4,532	43.1	201,690	0.3	2.2
2007	6,118	35.0	201,991	0.1	3.0

* Assumes that AHIP March 2005 survey reports 2004 data

Source: Table 16; and Carmen DeNavas-Walt, Bernadette D. Proctor, and Jessica C. Smith, *Income, Poverty, and Health Insurance Coverage in the United States: 2007*, U.S. Census Bureau, Washington, D.C.: U.S. Government Printing Office, 2008, Table C-1

Interestingly, the actuarially expected cost of an HSA-qualified plan, other things held constant, is lower than that of a high-deductible plan coupled with a health-reimbursement arrangement (HRA), under which an employer reimburses an employee for health costs that the employee's policy did not cover, because the funds in the HRA revert to the employer if they are not spent or if the employee leaves the firm, both common occurrences. Accordingly, beneficiaries of HRAs have an incentive to incur medical expenses, lest the benefit that the HRA extends be forfeited. By contrast, the fact that savings deposited into health savings accounts are owned by the policyholder and can be rolled over indefinitely discourages ill-considered use of health care, which depletes funds that will be needed when genuine health problems arise.[42]

Fronstin and Collins report several relevant findings in the latest EBRI/Commonwealth Fund survey:[43]

- 61 percent of consumers are "extremely" or "very" familiar with consumer-directed health plans;
- 53 percent find such plans "easy to understand";
- 63 percent of those covered by employment-based consumer-driven health plans had a choice among plans, while 35 percent of such individuals did not have a choice;
- Of those covered by employment-based comprehensive plans, 54 percent had a choice, while 40 percent did not. Of those enrolled in other high-deductible plans, 46 percent had a choice, while 50 percent did not.

In that survey, 51 percent of individuals who had a choice of employer health plans or who were in the non-group market report the main reason for their choice of a consumer-directed insurance plan to be its lower premium.[44] The percentages of consumers who are "extremely" or "very" familiar with consumer-driven health plans (61 percent, as stated above) or find such plans "easy to understand" (53 percent, as stated above) thus could probably be raised by better provision of clearer information by insurers or employers.

If the tax benefits of adopting a HSA-qualified plan, plus its lower premiums, exceed the cost of such policies' higher deductibles, the health-care consumer for whom this is true will likely choose such a policy. In the Fronstin/Collins survey, 46 percent of the respondents reported that the "opportunity to save money in the account [and] rollover [sic] funds for future years" was the main reason for choosing a consumer-directed plan.[45] This responsiveness to economic incentives suggests that it is reasonable to project a growing market share for HSA-qualified plans over time, as those to whom they are best suited embrace them.[46]

Available data on the present number of HSA savings accounts are limited. Unofficial estimates suggest that there are about 3 million to 3.5 million such accounts, or about one for every two individuals covered by HSA-qualified plans, or about one per family. This number is consistent with private findings by the Health Savings Accounts Council of the American Bankers Association, which reports about 1.66 million such accounts in a survey in which more than half

of U.S. banks participated (an equivalent figure if extrapolated to 100 percent).[47] It is consistent as well with the figure of 2.9 million health savings accounts—containing over $3.9 billion—reported by AIS Health.[48] But some evidence suggests that a substantially greater number of HSA accounts than that are open: 5.7 million in one survey and 6.5 million in another, both as of the third quarter of 2008.[49]

AHIP reports that among the health savings accounts open in January 2008, 44 percent had been open more than eighteen months, with an additional 16 percent open for thirteen to eighteen months.[50] Balances in these accounts averaged $1,382, and spending of funds in the accounts in 2007 averaged $1,083.[51] Kaiser-HRET reports that 72 percent of employers made contributions to their employees' health savings accounts in 2008 and that these contributions averaged $1,139 for individual coverage and $2,067 for family coverage.[52] Eighty-six percent of the customers of UnitedHealthCare said that they were more likely to open health savings accounts to which their employers contributed, according to a survey conducted by that company.[53]

Early Participation in Individual Retirement Accounts and Defined-Contribution Retirement Programs. Table 18 presents annual data, for the years 1975 through 2007, on total assets in Individual Retirement Accounts (IRAs), in defined-contribution pension programs, and in total retirement assets, in billions of year-2007 dollars. Of course, some of the growth in value represents asset appreciation, not just increases in participation rates and the size of contributions, whose mandated maximums have grown over time.

The available data do not report the assets in defined-contribution pension plans separately before 1975. This lack of data on the growth of such assets in the years following the plan's implementation precludes comparison with the early growth of HSA-qualified and high-deductible health insurance, as shown in Table 17. The available data do permit the summing of assets in defined-contribution and defined-benefit plans between 1945 and 1974, assuming that during the 1945–74 period, the ratio of defined-contribution assets to defined-benefit assets, as it shifted, corresponded to the ratio observed in the 1975–84 period. During the latter period, the ratio increased from 0.44 to 0.49.[54] These figures yield an imputed ratio for 1945 of 0.29, which grows to 0.335 for 1954.[55] Table 19 presents these data and calculations.

Table 20 presents data on the growth of HSA-qualified and high-deductible health-insurance plans, as well as IRAs and defined-contribution pension programs, in their respective early years. Participation in HSA/high-deductible health coverage, as a proportion of all health coverage, has grown slightly faster than the proportion of total retirement assets that IRA assets alone represent. The data on defined-contribution plans are murkier, as discussed above, and so do not allow inferences to be made with confidence. Since IRA and defined-contribution funds are subject to the account owners' control, they may have performed differently from the other varieties of pension funds.

Lessons from the Early Years of IRAs and Defined-Contribution Plans. Individual Retirement Accounts were created as part of the Employee Retirement Income Security Act (ERISA), enacted in 1974. Congress has introduced a number of changes to the IRA system since then: encouraging small businesses to offer retirement plans to their workers, expanding and then restricting eligibility, and so on.[56] Among the most important changes was the creation of the "universal" IRA in 1982, to which all workers under age 70½ were eligible to make contributions, regardless of income. As shown in Table 18, a sharp increase in the growth of IRA assets occurred in the years following this change and then tapered off in the years after 1986, when the universal right to establish an IRA no longer existed, due to congressional action. From then to the present, participation has been governed by increasingly complex contribution and eligibility rules that have changed over time; in addition, Congress has created several new types of IRAs.[57] Holden et al. note:

> Incentives work best when rules, structure, and provisions are simple, understandable, and predictable.… In contrast, the record

Table 18. IRAs, Defined-Contribution Pension Plans, Total Retirement Assets (billions of year-2007 dollars)

Year	IRA	Change (percent)	DC	Change (percent))	All Ret.	Change (percent)	IRA/All (percent)	DC/All (percent)
1975	9.5	----	278.5	----	1,478.7	----	0.6	18.8
1976	17.9	89.1	292.5	5.0	1,606.7	8.7	1.1	18.2
1977	25.2	41.0	306.1	4.7	1,675.9	4.3	1.5	18.3
1978	36.7	45.3	326.6	6.7	1,843.4	10.0	2.0	17.7
1979	48.4	31.9	363.2	11.2	1,980.5	7.4	2.4	18.3
1980	55.4	14.6	429.2	18.2	2,206.0	11.4	2.5	19.5
1981	77.0	39.0	446.5	4.0	2,231.4	1.2	3.5	20.0
1982	129.9	68.7	537.4	20.4	2,588.3	16.0	5.0	20.8
1983	196.6	51.4	616.7	14.8	3,011.6	16.4	6.5	20.5
1984	281.6	43.2	727.0	17.9	3,294.0	9.4	8.5	22.1
1985	414.2	47.1	874.8	20.3	3,989.1	21.1	10.4	21.9
1986	554.9	34.0	953.5	9.0	4,446.2	11.5	12.5	21.4
1987	663.0	19.5	1,070.6	12.3	4,730.7	6.4	14.0	22.6
1988	742.4	12.0	1,138.1	6.3	5,035.2	6.4	14.7	22.6
1989	832.8	12.2	1,304.1	14.6	5,634.2	11.9	14.8	23.1
1990	935.4	12.3	1,309.9	0.5	5,758.0	2.2	16.2	22.7
1991	1,101.1	17.7	1,504.0	14.8	6,492.8	12.8	17.0	23.2
1992	1,212.2	10.1	1,610.3	7.1	6,907.3	6.4	17.6	23.3
1993	1,346.2	11.1	1,788.1	11.0	7,549.8	9.3	17.8	23.7
1994	1,401.8	4.1	1,866.4	4.4	7,846.7	3.9	17.9	23.8
1995	1,675.5	19.5	2,233.6	19.7	9,064.3	15.5	18.5	24.6
1996	1,872.8	11.8	2,503.5	12.1	9,971.9	10.0	18.8	25.1
1997	2,169.9	15.9	2,942.2	17.5	11,308.0	13.4	19.2	26.0
1998	2,670.3	23.1	3,278.8	11.4	12,834.6	13.5	20.8	25.5
1999	3,245.5	21.5	3,674.0	12.1	14,486.7	12.9	22.4	25.4
2000	3,150.0	-2.9	3,557.3	-3.2	14,006.5	-3.3	22.5	25.4
2001	3,064.5	-2.7	3,116.0	-12.4	13,199.8	-5.8	23.2	23.6
2002	2,913.0	-4.9	2,842.8	-8.8	12,132.6	-8.1	24.0	23.4
2003	3,370.3	15.7	3,426.6	20.5	14,126.3	16.4	23.9	24.3
2004	3,611.1	7.1	3,650.5	6.5	15,081.3	6.8	23.9	24.2
2005	3,871.1	7.2	3,837.2	5.1	15,753.7	4.5	24.6	24.4
2006	4,333.6	12.0	4,229.9	10.2	16,953.3	7.6	25.6	25.0
2007	4,747.0	9.5	4,396.0	3.9	17,619.0	3.9	26.9	25.0

Note: Defined contribution assets for 1975–84 inferred from implicit growth rates reported by U.S. Department of Labor

Source: Board of Governors of the Federal Reserve System, *Flow of Funds Accounts of the United States*, Historical Tables, various tables, September 18, 2008, release; U.S. Department of Labor, "Private Pension Plan Bulletin Historical Tables," Table E11, February 2008; Investment Company Institute, "The U.S. Retirement Market, First Quarter 2008," October 2008, various figures; Peter Brady and Sarah Holden, *The U.S. Retirement Market, 2007*, Investment Company Institute, July 2008, various figures; Peter Brady and Sarah Holden, *Additional Data on the U.S. Retirement Market, 2007*, Investment Company Institute, July 2008, various figures; Council of Economic Advisers, *Economic Indicators*, August 2008, p. 3; Council of Economic Advisers, *Annual Report of the Council of Economic Advisers*, February 2008, Table B-3; and author computations

Table 19. Early Growth of Private Pension Assets (billions of year-2007 dollars)

Year	Pension Assets	Imputed DC Assets	Change (percent)	Total Ret. Assets*	DC/Total Ret. Assets (percent)
1945	36.7	10.7	----	116.0	9.2
1946	36.1	10.6	-0.9	120.0	8.9
1947	36.8	11.0	3.8	125.9	8.8
1948	37.3	11.4	3.6	132.1	8.6
1949	39.7	12.3	7.9	148.0	8.3
1950	44.0	13.9	13.0	170.0	8.1
1951	49.4	15.8	13.7	186.4	8.5
1952	71.5	23.3	47.5	223.3	10.4
1953	83.4	27.5	18.0	252.1	10.9
1954	97.4	32.6	18.5	284.9	11.4

* Includes all private pension assets, federal, state, and local retirement assets, and pension-fund reserves of life-insurance companies
Note: Figures subject to rounding

Note: See n. 55.

Source: Board of governors of the Federal Reserve System, *Flow of Funds Accounts of the United States*, Tables L.117, L.118, L.119, and L.120; Budget of the United States Government, *Fiscal Year 2008*, historical tables, Table 10.1; and author computations

Table 20. Early Growth of HSA/HDHP Health-Insurance Coverage and IRA/DC Pension Assets

	Year					
	1	2	3	4	5	6
HSA/HDHP coverage (thousands)	1,031	3,168	4,532	6,118	n.a.	n.a.
percent change	----	200.1	43.1	35.0	n.a.	n.a.
percent of total coverage	0.5	1.6	2.2	3.0	n.a.	n.a.
IRA assets (billion 2007 $)	9.5	17.9	25.2	36.7	48.4	55.4
percent change	----	89.1	41.0	45.3	31.9	14.6
percent of total assets	0.6	1.1	1.5	2.0	2.4	2.5
DC assets (billion 2007 $)	10.7	10.6	11.0	11.4	12.3	13.9
percent change	----	-0.9	3.8	3.6	7.9	13.0
percent of total assets	9.2	8.9	8.8	8.6	8.3	8.1

Note: For HSA/HDHP health coverage, year one is 2004; for IRAs, year one is 1975; and for DC pensions, year one is 1945, even though some forms of defined-benefit savings were in existence much earlier, perhaps as early as 1913. See n. 59 and the accompanying discussion.

Source: Tables 17, 18, and 19, *supra*

shows that complexity discourages the use of IRAs. This is particularly evident in individuals' negative reactions to the complicated rules that determined tax-deductible contribution eligibility after the elimination of the "universal" IRA.[58]

Tax rules implemented virtually since the (re-) introduction of the income tax in 1913 have allowed workers to defer taxation of profit-sharing contributions that their employers made to their retirement plans.[59] Various legal and regulatory changes have ensued, some having the effect of expanding participation and drawing additional assets, and others having the opposite impact. The IRS published regulations in 1981 that clarified the conditions under which employees could make contributions from wages on a pretax basis

to 401(k) plans, and these clarifications had the effect of promoting the adoption of such plans and increasing their assets sharply the following year and beyond. On the other hand, various congressional actions in the 1980s and 1990s limited the size of contributions to these plans, as well as the tax preferences for them. Congress also increased sharply the complexity of administering them.[60]

Unfortunately, data on defined-contribution plan assets are available only for the years since 1975 and, as noted above, must be inferred for the period 1945–74. Nonetheless, it is the case, unsurprisingly, that, as with IRAs, simplicity and liberalized eligibility and contribution limits are conducive to greater participation in such retirement plans and the growth of their assets.[61]

Table 20 shows that the percentage of all those covered by private insurance who received HSA-qualified and high-deductible health-plan health coverage in the first years of its availability closely corresponds to the percentage of total retirement assets found in IRAs in their beginning years. Indeed, the former category slightly outperforms the latter. Defined-contribution assets as a proportion of total retirement assets seem to have declined in the years following 1945. Again, the data for DC assets are based upon inferences permitting imputation of figures for years for which there isn't data, as noted above, and data on the size of such assets before 1945 are not available. Moreover, the massive economic adjustments following the Second World War are certain to have created anomalies in rates of adoption and asset growth. Nonetheless, these data on the whole suggest, preliminarily, that HSA-qualified health coverage has the potential to expand sharply over time.

While both contributions to and withdrawals from HSA savings accounts enjoy a tax advantage, withdrawals from non-Roth IRAs and defined-contribution retirement plans (subject to age requirements) are subject to taxation, a comparative advantage for HSAs.[62] Employers offering health-insurance coverage, however, typically offer a choice between HSA-qualified and other types of health plans.[63] For purposes of comparing rates of uptake of retirement plans and HSA-qualified plans in recent years, it is worth noting the finding of Holden, Brady, and Hadley: "Increasingly, 401(k) plans are the only retirement plan offered by an employer. By 2002, 90 percent of 401(k) plans were stand-alone plans."[64]

Note that many larger employers offer a choice among retirement plans, so that 41 percent of all workers participating in 401(k) programs had a choice of plans in 2002. But, as noted above, 65 percent of individuals covered by employment-based consumer-driven plans have a choice among health coverage plans.[65] Given the much higher rate of choice available to enrollees in employment-based consumer-driven health plans, the rate at which they selected those plans is all the more impressive.

IV. CONCLUSIONS AND POLICY RECOMMENDATIONS

The central purpose of high-deductible health coverage, combined with health-care-related savings accounts enjoying tax preferences, is the provision of stronger incentives for individuals to economize on their consumption of health-care resources. As noted above, there are good reasons, both conceptual and empirical, to believe that economizing would be the likely outcome. But it is clear that with HSA-qualified insurance in its infancy, more evidence is required.

Toward that end, the consequences of the choices of large groups of policyholders at a few large firms who have been offered a range of coverage plans, including HSA-qualified insurance, should be studied. Do those opting for such HSA-qualified plans systematically consume fewer health-care services, holding age, medical characteristics, and other such important factors constant? In other words, is the case in favor of high-deductible health coverage, particularly that qualifying for HSA savings accounts, empirically borne out?

Second, we need to learn to what extent high-deductible plans can jeopardize the health of policyholders by discouraging them from incurring the cost of treatment.

By the time a patient's deteriorating condition can no longer be ignored, it will be more expensive to treat, thus adding to aggregate health costs. In the case of a diagnosed chronic illness, continuation of treatment is rarely a matter of discretion. Even so, federal law does not permit what is merely the continuation of treatment for an established, incurable condition to receive first-dollar coverage, as preventable services may.

Nevertheless, even the chronically ill might opt for HSA-qualified coverage rather than a traditional fee-for-service plan.[66] For a patient covered by a policy with a low deductible of, say, $500 and a 20 percent copayment for the next $5,000 in medical expenses, the total out-of-pocket expenditure would be $1,500, to be paid with after-tax dollars. Moreover, the premiums for such coverage would be higher than those for HSA-qualified coverage.[67] However, under an HSA-qualified plan, even an individual suffering from a chronic illness would pay a low annual premium and use the savings to fund a health savings account, the pretax dollars in which could finance the cost of the higher deductible. The net financial outcome for this hypothetical patient depends on the particular premiums, deductibles, and out-of-pocket maximum expenditures that he is obligated to pay, as well as his marginal tax rate and other such factors. But it is far from clear that high-deductible coverage linked to a health savings account is "only for the healthy."

Should this combination of costs and benefits fail to be generous enough to induce the chronically ill to sign on to such coverage, perhaps the extension of first-dollar coverage to the treatment of chronic illness would, provided a year's worth of deductibles has been paid. The difficulty in establishing that the treatment exempted from the deductible is for a chronic condition should be no greater than establishing that a different kind of treatment is "preventive," a category of treatment already covered under most such plans on a first-dollar basis. Of course, the extension of this valuable benefit could require an increase in the level of premiums.[68] Whether it actually would is worth finding out but cannot be unless regulations proscribing such experiments on behalf of differently situated individuals are lifted.

If the link between employment and health insurance should unfortunately be perpetuated, there are nevertheless several smaller steps that could be taken to increase the popularity of HSA-qualified plans. This country's experience with retirement plans suggests that greater legal and regulatory simplicity combined with looser eligibility standards and more generous limits on the contributions that policyholders can make to their health savings accounts could achieve that outcome.[69] Many of these ideas would be worthy candidates for additional research.

1. One policy change that might induce people to adopt HSA-qualified plans would be the elimination of payroll taxes on that portion of salary contributed to a health savings account. Employee contributions are now excluded from income taxes, but not payroll taxes, while employer contributions are exempt from both.

2. Another such change would be raising the annual contribution limit for HSA savings accounts to the out-of-pocket maximum for a given plan, so that a policyholder's tax-advantaged contributions would be able to cover his out-of-pocket expenses in their entirety. This change might prove particularly important for those suffering from chronic medical conditions, who are likely to reach the out-of-pocket maximum, and should not let cost keep them from obtaining essential care.

3. HSA-qualified insurance premiums for policies purchased in the non-group market should be tax-deductible; perhaps they could even be paid for with HSA funds. Under current law, funds in HSA accounts may be used to pay health-insurance premiums only when the covered individuals are receiving federal or state unemployment benefits or are covered by their former employer's COBRA continuation policy. In addition, HSA funds may not be used to pay a spouse's Medicare premiums unless the HSA account holder is aged sixty-five or older. The extension to everyone of the right to pay premiums with HSA funds might be combined with a tax credit for the portion of an individual's payroll taxes that equals these premiums. With these two changes, the tax treatment of HSA-qualified health-insurance premiums would become the same for all taxpayers, regardless of whether their employers offer health benefits.

4. Deductibles should be reduced for hospital care, which is usually mandatory and thus unlikely to be sought less often as the result of such economic disincentives as a high deductible.

5. When people enroll in an HSA-qualified plan, some let a few months elapse between the beginning of their health coverage and the establishment of their health savings account. Current regulations do not allow reimbursement of medical expenses incurred during that time gap with funds drawn from a health savings account. Perhaps all "qualified medical expenses" (as defined under the tax code) incurred after HSA-qualified coverage begins could be reimbursable with funds from an HSA account, as long as the account is established by, say, April 15 of the following year. Such a change would be consistent with the regulatory treatment of many tax-preferenced retirement plans.

6. Preventive care should be redefined to cover a greater number of prescription drugs—in particular, the type of drugs that prevent complications resulting from chronic conditions. Current law allows "preventive care" services to be covered on a first-dollar basis.

7. Current law allows HSA-eligible individuals aged fifty-five or older to make catch-up contributions each year. If made by both spouses, however, they must be deposited into separate HSA accounts, even if both are eligible to make catch-up contributions. Allowing the spouse who is the HSA account holder to double his or her catch-up contribution on behalf of the other eligible spouse would avoid an unnecessary duplication of accounts.

8. Most Medicare beneficiaries may not contribute additional funds to their health savings accounts, although they may continue to draw funds from them. Enrollment in Medicare Part A is automatic upon turning sixty-five and receiving Social Security, and it is difficult to delay or decline enrollment. Being able to contribute additional funds after enrollment would be desirable in view of the size of the current deductible for hospital coverage under Medicare Part A—over $1,000 per admission—a sum nearly equal to the minimum deductible required of HSA-qualified plans.

9. Medicare Medical Savings Accounts are a relatively new type of plan under the Medicare Advantage program. MSA plans allow seniors to enroll in a high-deductible plan and receive tax-free contributions from the federal government to HSA-like accounts. Because the government contribution is significantly lower than the plan deductible, Medicare beneficiaries enrolled in such accounts should be allowed to contribute their own pretax dollars to them, which they may not do today.

10. The HOPE Act of 2006 allowed employers offering Flexible Spending Arrangements (FSAs) or Health Reimbursement Arrangements (HRAs) to shift an employee's unused funds to a newly established HSA up to the amount that was in an FSA or an HRA as of September 21, 2006. However, an employer may not roll over any unused FSA funds unless it offers a "grace period" to the employee, extending until March 15 of the year following the conversion, during which he can get his medical expenses reimbursed. These restrictions should be loosened or eliminated, so that any FSA or HRA funds can be rolled over into HSAs at any point.

11. Prepaid medical services, under which amounts paid by patients to their primary-care physicians in advance for the right to receive medical services on an as-needed basis, do not come within the current definition of "qualified medical expenses" and are thus disqualified from reimbursement with HSA funds. This restriction should be revoked.

These and similar policy prescriptions are worthy of serious consideration as alternatives to the inevitable rationing and distortions of rational economic decision making inherent in reform proposals that lack incentives for constraining the consumption of health-care resources.

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Endnotes

1. See, e.g., Professor Jonathan Gruber, Statement before the Committee on Finance, U.S. Senate, July 31, 2008; and "Tax Expenditures for Health Care," prepared by the Staff of the Joint Committee on Taxation for the Finance Committee, U.S. Senate, July 31, 2008. See also Council of Economic Advisers, *Annual Report of the Council of Economic Advisers*, February 2006, Washington, D.C.: U.S. Government Printing Office, pp. 85–106; Kaiser Family Foundation, "Tax Subsidies for Health Insurance: An Issue Brief," July 2008; and Paul Fronstin, "The Tax Treatment of Health Insurance and Employment-Based Health Benefits," Employee Benefit Research Institute, Issue Brief 294, June 2006.

2. Gruber, Statement before the Committee on Finance. Note that while the tax subsidy may make health insurance appear "artificially cheap" in the eyes of an individual employee, it is likely to have the effect of increasing the aggregate demand for health-care goods and services and thus the prices for them and health insurance itself. Finkelstein estimates that the expansion of health insurance between 1950 and 1990 explains "about half of the six-fold rise in real per-capita health spending" over that time period. See Amy Finkelstein, "The Aggregate Effects of Health Insurance: Evidence from the Introduction of Medicare," *Quarterly Journal of Economics* 122, no. 1 (February 2007): 33.

3. The deductible for an insurance policy is a fixed dollar expenditure that the insured must make for covered services before the plan begins to pay benefits. A copayment is a fixed dollar amount that the insured pays the medical provider at the time of service. Some policies set a maximum for copayments, after which the insurer pays the entire bill. Coinsurance is a percent of the cost of covered services that the insured pays, again until an out-of-pocket maximum is reached.

4. Again, one complication is the effect of current medical consumption on future health, and thus future health-care demands. There is some evidence that the reduction in consumption that higher consumer costs of some medical goods and services—certain pharmaceuticals being one prominent example—bring about may exacerbate health problems over time, with higher attendant costs. This issue falls largely outside the scope of this paper, but it is noted below. See also n. 13 below.

5. For example, $1,000 of health-care services fully covered by employer-provided insurance costs the employee about $700 in after-tax dollars, assuming a 15 percent marginal tax rate and a 15.3 percent payroll tax (half of which nominally—because the employer contribution results in a lower wage virtually dollar for dollar—is paid by the employer). If paid out of pocket by the employee, due to a higher deductible and/or copayment, the cost would be the full $1,000 in after-tax dollars. Note also that medical expenditures must exceed 7.5 percent of adjusted gross income, or 10 percent of adjusted gross income for purposes of computing the alternative minimum tax, in order to be deductible from income subject to the U.S. income tax. See Staff of the Joint Committee on Taxation, supra, fn. 1.

6. Council of Economic Advisers, *Annual Report of the Council of Economic Advisers*, February 2006, p. 100. Obviously, the rate of GDP growth as well would affect the health spending/GDP ratio. By decreases in the "short-run quantity" and "medium-term price[s]" of health care, the CEA probably means reductions in their respective rates of growth rather than actual decreases.

7. John C. Goodman, "Statement on Health Savings Accounts," before the U.S. Senate Special Committee on Aging, May 19, 2004.

8. Quoted in Redorbit News, "Senator Touts Medical Accounts System Is Failing DeMint Warns," February 24, 2006, at http://www.redorbit.com/news/display/?id=404451.

9. Statement quoted at http://coburn.senate.gov, June 9, 2006.

10. Ibid. Several such improvements are suggested in the conclusion of this paper. Possible methods for reducing the tax distortion of the U.S. health-insurance market have been discussed for almost twenty-five years. See National Center for Policy Analysis, "A Brief History of Health Savings Accounts," at http://www.ncpa.org/prs/tst/20040811_hsa_history.htm.

11. Federal law over time has engendered three variants of "consumer-directed" health plans: Flexible Spending Arrangements (FSAs), Health Reimbursement Arrangements (HRAs), and High-Deductible Health Plans (HDHPs). FSAs are health-care spending accounts offered through employers: employees make pretax contributions through payroll deductions, which may be used to pay medical expenses approved by the employer. Unused funds at the end of the year are assigned to the employer. HRAs are health-care spending accounts funded by employers: withdrawals may be used for medical expenses approved by the employer. Unused funds at the end of the year may be carried over to the next year if the employer allows it, but will revert to the employer if the employee leaves the firm. For HDHPs, federal rules specify minimum deductibles, maximum out-of-pocket expenditures, and the benefits that are covered. HDHPs allow the employer and/or the employee to contribute dollars on a pretax basis to a health savings account, and they permit disbursements for a broad range of medical expenses. These accounts can be carried over from year to year and are fully portable—if the employee leaves his or her firm, the account and its funds remain with the employee.

12. Employer contributions to health savings accounts are excluded from an employee's income taxes and his payroll taxes, but an individual's contributions are excluded only from income taxes.

13. For a useful discussion of the characteristics and goals of high-deductible health insurance and health savings accounts, see Roy Ramthun, *The Common Sense Guide to Health Savings Accounts*, HSA Consulting Services, 2008–09 edition, at http://hsaconsultingservices.com. Note that there is evidence that a shift of specific types of medical costs onto patients has the effect of reducing the use of those medical services and thus may worsen medical conditions and drive up medical costs. This seems to have happened when the cost of certain pharmaceuticals was shifted to the patient. See Joseph P. Newhouse and Anna D. Sinaiko, "What We Know and Don't Know about the Effects of Cost Sharing on the Demand for Medical Care—And So What?," in *Incentives and Choice in Health Care*, ed. Frank A. Sloan and Hirschel Kasper (Cambridge, Mass.: MIT Press, 2008). See also Lars Osterberg and Terrence Blashke, "Drug Therapy: Adherence to Medication," *New England Journal of Medicine* 353, no. 5 (August 4, 2005): 487–97. Many medical services are sufficiently costly that shifting costs to patients could discourage them from seeking needed medical assistance.

14. In other words, from the standpoint of the individual, insurance is a way to shift income, or assets, to time periods when the need for funds will be greater. For a nontechnical discussion of the economics of insurance markets, see Richard Zeckhauser, "Insurance," in *The Concise Encyclopedia of Economics*, ed. David R. Henderson (Indianapolis: Liberty Fund, 2008), pp. 281–84.

15. This discussion ignores the regulatory distortions introduced by mandatory "community rating" (insurance premiums for individuals or groups not reflecting medical risks) and "guaranteed issue" (a requirement that insurance pools accept all applicants). But see Benjamin Zycher, "Comparing Public and Private Health Insurance: Would a Single-Payer System Save Enough to Cover the Uninsured?," Center for Medical Progress, Manhattan Institute for Policy Research, Medical Progress Report No. 5, October 2007, pp. 16–21.

16. For a fuller discussion, see American Academy of Actuaries, "The Impact of Consumer-Driven Health Plans on Health Care Costs: A Closer Look at Plans with Health Reimbursement Accounts," January 2004, at www.actuary.org/pdf/health/cdhp_jan04.pdf. See also Congressional Budget Office, "Consumer-Directed Health Plans: Potential Effects on Health Care Spending and Outcomes," December 2006; Congressional Budget Office, "CBO's Health Insurance Simulation Model: A Technical Description," October 2007; and Kaiser Family Foundation, "Tax Subsidies for Health Insurance: An Issue Brief," July 2008.

17. Other important empirical questions such as the effect of price increases for a given medical service upon demand for substitute or complementary services, or the longer-run effects of reductions in medical consumption on health outcomes and future costs, have been examined, but the literature does not yield conclusive answers. See Newhouse and Sinaiko.

18. See Joseph P. Newhouse et al., "Some Interim Results from a Controlled Trial of Cost Sharing in Health Insurance," *New England Journal of Medicine* 305, no. 25 (December 17, 1981): 1501–7. See also Joseph P. Newhouse and the Insurance Experiment Group, *Free for All? Lessons from the RAND Health Insurance Experiment* (Cambridge, Mass.: Harvard University Press, 1996).

19. For the "free," 25 percent, 50 percent, and 95 percent coinsurance groups, average annual physician visits per person were, respectively, 4.5, 3.3, 3.0, and 2.7 in number. For the group with required coinsurance for outpatient visits only, average annual visits were 3.0. The respective numbers for hospitalizations (per 100 individuals) were 12.8, 10.5, 9.2, 9.9, and 11.5. Interestingly, almost all the additional visits to emergency rooms observed in the plans with less cost-sharing were for nonemergencies or minor problems. Medical services used per physician visit or per hospitalization were about the same; and these results were about the same throughout the income distribution.

20. Melinda Beeuwkes Buntin et al., "Consumer-Directed Health Care: Early Evidence about Effects on Cost and Quality," *Health Affairs* (October 24, 2006): W526.

21. Anna Dixon, Jessica Greene, and Judith Hibbard, "Do Consumer-Directed Health Plans Drive Change in Enrollees' Health Care Behavior?," *Health Affairs* 27, no. 4 (July/August 2008): 1126.

22. Paul Fronstin and Sara R. Collins, "Findings from the 2007 EBRI/Commonwealth Fund Consumerism in Health Survey," Employee Benefit Research Institute, Issue Brief 315, March 2008, p. 1.

23. John W. Rowe et al., "The Effect of Consumer-Directed Health Plans on the Use of Preventive and Chronic Illness Services," *Health Affairs* 27, no. 1 (January/February 2008): 113–20. Note that preventive and screening services in the consumer-directed plans examined in their study were not subject to the plans' deductibles. This issue is discussed below.

24. The two are antihypertensives and lipid-lowering drugs. The other three are antidepressants, asthma drugs, and anti-ulcerants. Interestingly, the two former drugs are used for conditions that are largely asymptomatic in many or most cases. See Jessica Greene et al., "The Impact of Consumer-Directed Health Plans on Prescription Drug Use," *Health Affairs* 27, no. 4 (July/August 2008): 1111–19.

25. See Ramthun, *supra*, fn. 13.

26. For HSA-qualified family policies, the deductible for each family member must be at least $2,200. All these limits are adjusted annually for inflation. For 2009, the figures for individual policies are $1,150 and $5,800; and $2,300 and $11,600 for families.

27. The differences between the deductibles for the HSA-qualified plans and the others are statistically significant at significance levels of 0.05 or lower.

28. For both Tables 4 and 5, the differences in out-of-pocket limits between the HDHP/SO plans and the "all plans" weighted averages are statistically significant at significance levels of 0.05 or lower. As noted in the tables, HDHP/SO plans include both high-deductible plans with health-reimbursement accounts and HSA-qualified plans.

30. Kaiser Family Foundation-HRET, 2007 and 2008, Exhibits 8.4 and 8.6, respectively.
AHIP, "January 2008 Census Shows 6.1 Million People Covered by HSA/High-Deductible Health Plans," April 2008, Figure 2.

31. The All-Plans averages in Table 10 are approximately the sum of 25 percent of the average HSA-qualified premiums and 75 percent of the average of the premiums for all other types of policies (not shown in Table 10). Average premiums for all other types of policies can be computed, roughly, as X = [(All Plans average) – (.25)(HSA-qualified average)]/.75. This computation is shown in Table 11.

32. Note that in the AHIP data reported in Tables 10 and 11, the premiums for HSA-qualified insurance are for the "best-selling policies in the individual market, by age group." See AHIP, April 2008, p. 6. This may introduce a bias in the comparison of HSA-qualified premiums across age groups. The fact that premiums are higher for HSA-qualified policies covering the youngest seems anomalous; the inclusion of eighteen- and nineteen-year-olds in the non-HSA data may account for it.

33. Ramthun, p. 9.

34. An AHIP survey finds that in 2007 84 percent of HSA-qualified policies provided first-dollar coverage for preventive care, although the specific services covered by different policies and insurers certainly varies. See AHIP, "A Survey of Preventive Benefits in Health Savings Account (HSA) Plans," July 2007, Table 1.

35. This was noted above. See Rowe et al.

36. Paul Fronstin and Sara R. Collins, "The 2nd Annual EBRI/Commonwealth Fund Consumerism in Health Care Survey, 2006: Early Experience with High-Deductible and Consumer-Driven Health Plans," Employee Benefit Research Institute, Issue Brief 300, December 2006.

37. Ibid.

38. See Kaiser Family Foundation-HRET, 2008, Exhibit 8.1.

39. Ibid., Exhibit 8.19.

40. Ibid., Exhibit 8.4. These other types of high-deductible plans are coupled with health-reimbursement accounts; as noted above, these accounts revert to the employer if the employee leaves the firm. Accordingly, such accounts are not "savings."

41. These increases in premiums from 2007 to 2008 are not adjusted for inflation, since 2008 deflators for the health-care sector and for the economy in the aggregate are not available.

42. For 2008, the average annual premiums for HDHP/HRA policies for covered workers are $4,468 for individual coverage and $11,571 for family coverage. The respective figures for HSA-qualified plans are $3,527 and $9,101. See Kaiser Family Foundation-HRET, 2008, Exhibit 8.6.

43. Fronstin and Collins, "Findings from the 2007 EBRI/Commonwealth Fund Consumerism in Health Survey," Figures 3, 15, and 17.

44. Ibid., Figure 20.

45. Ibid. It is not clear why the figures presented by Fronstin and Collins sum to more than 100 percent, since their Figure 20 reports a single, "main reason" that the individuals responding chose a particular type of health plan.

46. See Steve Davis, "Health Savings Accounts Approach $4 Billion Mark and Financial Firms Expect Continued Growth," *AIS's Health Business Daily*, Atlantic Information Services, September 25, 2008, for various qualitative projections of substantial prospective growth in HSA accounts. See also Eric Dash, "Health Savings Accounts Attract Wall Street," *New York Times*, January 27, 2006.

47. Private communications with Roy Ramthun of HSA Consulting Services and Kevin McKechnie of the American Bankers Association.

48. See Davis. The respective figures for a year earlier were 1.76 million accounts and $2.33 billion.

49. See Todd Berkley, "HSA Usage Patterns—The Evolution Continues," OptumHealth Financial Services presentation, slide 4, October 20, 2008. The analysis presented in this work on net favors the lower estimates; see slide 5.

50. AHIP, April 2008, Table 8.

51. Ibid., Tables 9 and 10. The AIS estimate of the average account balance is $1,348; see Davis.

52. Kaiser Family Foundation-HRET, 2008, Exhibit 8.8. Inclusion of employers that do not make contributions to their employees' health savings accounts yields average contributions of $838 and $1,522, respectively.

53. UnitedHealthCare, "Health Savings Accounts: A Year-Long Look at Adoption, Usage, and Funding Patterns," September 16, 2008, at http://www.unitedhealthgroup.com/global/hsa-final.pdf.

54. See Board of Governors of the Federal Reserve System, Tables L.118.b and L.118.c.

55. For the 1945–54 period, the respective imputed ratios of defined contribution assets to total private pension assets are 0.29, 0.295, 0.3, 0.305, 0.31, 0.315, 0.32, 0.325, 0.33, and 0.335.

56. For a fuller discussion of this history, see Sarah Holden et al., "The Individual Retirement Account at Age 30: A Retrospective," Investment Company Institute, February 2005.

57. These include the Simplified Employee Pension (SEP) IRA in 1978, an employer-based program; the universal IRA noted above, between 1982 and 1986; a replacement for the universal IRA beginning in 1987, which allowed workers within certain income limits to make IRA contributions even if they were covered by an employer retirement plan; the Savings Incentive Match Plan for Employees (SIMPLE) IRA, created in 1996 and aimed at small businesses; the Roth IRA, created in 1997, which allows after-tax contributions; and increases in income and contribution limits in 1997 and 2001 for all plans.

58. Holden et al., "The Individual Retirement Account at Age 30," p. 2. See also Jane Zhang, "To Your Health," *Wall Street Journal*, July 14, 2008, p. R5.

59. For a fuller history, see Sarah Holden, Peter Brady, and Michael Hadley, "401(k) Plans: A 25-Year Retrospective," Investment Company Institute, November 2006.

60. The so-called nondiscrimination rules and the definition of "highly compensated" employees in particular are complex. See Holden et al., "The Individual Retirement Account at Age 30," pp. 9–14.

61. Ibid.

62. Contributions to Roth IRAs are made on an after-tax basis, but account earnings and later withdrawals are exempt from taxation.

63. See the discussion above of the Fronstin/Collins findings, supra, n. 45.

64. See Holden, Brady, and Hadley, p. 7.

65. See *supra*, n. 63. There is a complex economic issue presented by the decision of some employers to offer

defined-benefit plans, others to offer defined-contribution plans, and others both. It is likely that the choice reflects a desire to influence employee tenure, depending on the relative need to invest in human capital. This is an issue far outside the scope of this paper; but see Leora Friedberg and Michael T. Owyang, "Not Your Father's Pension Plan: The Rise of 401(k) and Other Defined Contribution Plans," *Federal Reserve Bank of St. Louis Review*, January/February 2002, pp. 23–34.

66. We can assume that many individuals suffering from chronic conditions may prefer to avoid HMO plans, in that these may require (whether explicitly or implicitly) waiting periods or impose other conditions to see specialists; offer drug formularies with fewer new and more effective medicines; or feature other characteristics designed to control explicit costs. Moreover, virtually all HSA-qualified plans count prescription drug expenditures toward their higher plan deductible. For a fuller discussion, see Ramthun, pp. 25–26.

67. See, *supra*, Tables 9 through 11, and Table 1.

68. See, e.g., Department of Health and Human Services, Centers for Disease Control and Prevention, "Chronic Disease Overview," at http://www.cdc.gov/nccdphp/overview.htm.

69. Some of these suggested changes are set forth in legislation proposed by Senator Orrin G. Hatch, the "Family and Retirement Health Investment Act of 2008," S. 3686, introduced in the 110th Congress.

Fellows

David Gratzer
Regina E. Herzlinger
Paul Howard
Peter W. Huber
Thomas P. Stossel
Benjamin Zycher

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