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An analysis of the Medical Savings Account as an alternative retirement savings Vehicle

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Abstract

Personal savings as a percentage of disposable income have dropped steadily since the early 1980s. Savings have continued to decline in 1999, as the savings rate—savings as a percentage of after-tax income—dropped to a record low of minus 0.7% in April 1999, according to the Department of Commerce. The study finds that MSA-type accounts are a viable supplement to retirement savings, but should not be used as a replacement for existing retirement alternatives given their current structure. Results show that future health care expenditures are an important factor in the success or failure of MSAs as supplemental retirement accounts. Medical Savings Accounts are currently eligible for long-term care expenses, and to the extent that such expenses occur during retirement, MSA balances could be used to pay for retirement expenses. In that respect the accounts already capture the characteristics of a retirement savings account. A comparison of the Roth IRA with the MSA as defined by the 1996 HIPAA legislation is also conducted.

1. Introduction

Personal savings as a percentage of disposable income have dropped steadily since the early 1980s. In 1997, the savings rate by this measure stood at less than four percent—the lowest rate in 59 years. Research for Merrill Lynch's annual Baby Boom Retirement Index has consistently shown that the baby boomer generation has fallen as much as two-thirds

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behind the rate of savings that they need to maintain their current standard of living in retirement. A 1995 KPMG survey of 1,183 employers found that employees contribute only about one-third of the amount they are eligible to put into their 401(k) plans. Savings have continued to decline in 1999, as the savings rate—savings as a percentage of after-tax income—dropped to a record low of minus 0.7% in April, according to the Department of Commerce. Savings were in negative territory for five of the previous six months.

Even among those who do participate in retirement savings there is a tendency to be exceedingly cautious in their investment choices. As demonstrated by Bajtelsmit (1996), overly conservative pension investments by plan participants could have extreme consequences for retirement income security.

Many individuals and financial advisors are re-examining the Medical Savings Account for its potential role as an alternative savings vehicle. Federal guidelines state that an MSA account-holder can use MSA funds for certain medical expenses, but it is not required. Medical bills can be paid with money from some other account (if available) without touching the funds in the MSA. Early indications suggest that many MSA owners may be exercising that option. Medical Savings Accounts are currently eligible for long-term care expenses, and to the extent that such expenses occur during retirement, MSA balances could be used to pay for retirement expenses. In that respect the accounts already capture the characteristics of a retirement savings account.

This paper examines the feasibility of Medical Savings Accounts as a practical savings opportunity. The numerical analysis is a refinement of previous simulations in a number of areas (see Jensen and Morlock, 1994, Bond et al., 1996). Rates used for inflation, stock returns, and yields on bills are based on forecasts by Ibbotson and Associates for the years 1999–2025. Taxable and tax-deferred growth are computed and contrasted. The composition of assumed investments in the MSA more closely emulate actual practice than do prior related studies, and claims scenarios are based on an extensive National Bureau of Economic Research study. Also, the maximum allowable contribution is indexed in order to align the amounts more closely with the parameters found in the 1996 Health Insurance Portability and Accountability Act (HIPAA) pilot program. A comparison of the Roth Individual Retirement Account (IRA) with the MSA as defined by the 1996 HIPAA legislation is also conducted.

The public policy objectives behind the creation of the MSA and Roth IRA—saving for health care expenditures and retirement, respectively—are obviously different. However, consideration should be given to an integration of these objectives into a more flexible and comprehensive savings vehicle. If the composition of legislation currently being drafted is any indication, the structure of these two accounts may contain even more similarities in the future.

At the present time the option of saving through an MSA-type account is limited to the self-employed, employers with 50 or fewer employees, employees of firms with MSA plans (not necessarily eligible for federal tax incentives), and individuals not covered elsewhere. The results of this study should be of interest to individuals already using such plans, and to employers who have not previously considered the use of MSA plans as a benefit option.

2. An overview of medical savings accounts

The introduction of Medical Savings Accounts was motivated by two primary factors: rising health costs and a steady decline in private health insurance. With an MSA, people pay premiums to an insurer, but the premiums are lower because the policy has a high deductible that covers only catastrophic expenses. A major medical policy with a $2,500 deductible can often be purchased for about one-half the cost of a policy with a $250 deductible. Part of the money saved by the lower insurance premium is deposited to the Medical Savings Account. Individuals can withdraw funds from their MSA to pay smaller health care expenses below the deductible of their health insurance policy.

Underlying the concept of an MSA is the notion that the traditional health care financing system is inefficient for a number of reasons. First of all, there is limited price comparison in the delivery of medical services, as little incentive exists for the fully insured to reduce costs that are primarily borne by the insurance company. Currently, about 95% of all hospital bills and 83% of physicians' fees are paid by private and public third-party payers. On the average, every time a patient spends a dollar in the medical marketplace, 79 cents is paid by someone else (Robbins et al. 1994).

In addition, studies have confirmed that the level of deductibles has an influence on the utilization of health care, with the system providing services that patients would not authorize if they had to pay for them out-of-pocket. The Health Insurance Experiment, conducted between 1974 and 1981, looked at the effect of health insurance on spending for medical purposes by enrolling people in a variety of health insurance plans (for a description of the experiment see Newhouse, 1993). By monitoring medical spending in these plans, analysts at RAND were able to estimate dissimilar medical spending behavior among the various samples based on different out-of-pocket costs. They found that when the out-of-pocket price is zero, individuals use approximately 50% more medical care than when insured pay 95% of the cost out-of-pocket up to a maximum of $1,000 per year.

MSA-type health plans have been offered by a limited number of companies since at least the early 1980s (Doerpinghaus, 1996). Missouri became the first state to pass a law recognizing use of MSAs for state income tax purposes in 1993. Around 15 states now have similar legislation. The first federal medical savings account legislation was introduced on May 21, 1992. Various pieces of federal legislation have been offered throughout the first half of the 1990s to allow federal tax deductibility of medical savings accounts, but the first successful, although limited attempt to allow such accounts did not occur until 1996.

In 1996, Congress created a demonstration project permitting small employers and the self-employed to establish up to 750,000 tax-free Medical Savings Accounts (MSAs). However, lawmakers imposed a number of restrictions that limit who can purchase MSAs and that constrain the ability of MSAs to work properly. For example, the program is limited to employers having 50 or fewer employees and the self-employed. As a result, the project is primarily aimed at the small business sector, where traditional health insurance benefits are less likely to be offered and impose the greatest financial burden on employers. In response to the criticisms of the limitations imposed, legislation is being drafted to enlarge the project. In 1999 expanded Medicare health plan choices included a MSA demonstration project. As many as 390,000 beneficiaries can join MSAs under the project.

Under the 1996 Health Insurance Portability and Accountability Act of 1996, MSA is defined as a personal savings account from which unreimbursed medical expenses, including deductibles and co-payments, can be paid. An MSA must be in the form of a tax-exempt trust or custodial account established in conjunction with a high-deductible health plan. Preferred provider organizations are the most common type of plan, but traditional indemnity plans are also widely available. Other plan types including health maintenance organizations, exclusive provider organizations and point-of-service plans, are also available to a lesser degree.

A benefit of the MSA is that participants under most plans have complete choice as to the doctor or health care provider they wish to use. Another advantage is the scope of services that qualify for MSA payments. Eligible medical expenses are mostly the same ones that are deductible for federal income tax purposes—ignoring the 7.5% of adjusted gross income limitation for the taxpayer that itemizes.

In contrast to Section 125 plans, or flexible spending accounts (FSAs), MSAs do not penalize account holders for saving more than is used in a given year. Under FSAs, employees must use their account balance by year-end or lose the funds. This encourages employees to increase utilization near year-end to "use up" any unspent funds. MSAs allows unused funds to roll over to the next year, discouraging inefficient usage of medical services.

Critics of the program claim that MSAs benefit the healthy and wealthy at the expense of other individuals, as only high-risk people will be left in other plans to distribute the risk in the risk pool. Many critics of Medical Savings Accounts also point to the financial hardships imposed upon a family with high deductibles. However, this argument is weakened when viewed in the context of the employee's cost-sharing arrangement in traditional health plans. Average employee contributions to health insurance plans have risen consistently since 1983. In that year, single coverage contributions averaged $10 a month and family coverage $33 a month. By 1995, required contributions were three and four times higher for single and family coverage, respectively, than in 1983. During this time period, medical prices, as measured by the medical care component of the Consumer Price Index, doubled. Employee contributions increased at about the same rate as the medical care component of the CPI until the mid-1980s, and since then have outpaced the CPI medical care component.

Critics of Medical Savings Accounts also claim that they provide a disincentive towards preventive care. However, experience suggests that the reverse is true. A survey of Golden Rule employees who have MSAs found that 20% actually used their MSA for a medical service they would not have purchased under the traditional insurance plan. The experience of companies with a 5 or 6 year history of using MSAs, such as Dominion Resources, found that their annual premium cost have risen at less than 1% a year. The problems of neglecting preventative care presumably would have shown up in the form of increased insurance premiums.

Concrete evidence that would support this criticism is not found in the Rand study. This governmental study also found that with large differences in total use of medical services, the health outcomes were not significantly different. In other words, increased cost sharing did not have a significant negative effect on the participants' health status (Newhouse, 1993).

Medical savings accounts are not limited to those falling under the 1996 HIPAA legislation. Many organizations have already implemented a medical savings account type of health insurance plan, even when such plans do not qualify for federal tax deductibility under

HIPAA. They include Dominion Resources, Forbes, Golden Rule Insurance Co., Quaker Oats, and the United Mine Workers Union.

A few major MSA plan providers have categorized the demographics of their MSA owners and applicants. According to *MSANews,* an online newsletter sponsored by the Golden Rule Insurance Company, the market leader in providing Medical Savings Accounts, the demographics of MSA owners are as follows:

- 72% are families
- 55% have children
- 10% are single parents
- 27.8% are single
- 16% of MSA applicants were previously uninsured
- 77% of MSA applicants are self-employed
- 23% work for small businesses
- The average age of the primary insured is 44

As of May 1999, Golden Rule Insurance Co. had a total of 37,323 individual MSA plans in force. At Fortis Health, another leading provider of MSA plans, approximately 80% of sales are to individuals and 20% of sales are to small businesses.

The medical savings concept has also been embraced internationally. Since 1984, Singapore has provided its citizens with health care through a form of medical savings accounts. Singapore spends only 3.1% of its gross domestic product (GDP) on health care, while the U.S. spends about 14%, yet Singapore's hospitalization rate is about equal to that of HMOs in the United States (Massaro & Wong, 1996). In 1993, China began experimenting with MSAs. Today, about 5 million Chinese workers have them.

3. Literature review

Previous research in the area of Medical Savings Accounts has been somewhat inhibited due to limited participation at this point in time. For example, the Government Accounting Office (GAO) had been directed by Congress to survey enrollees, employers and financial institutions in the HIPAA qualified plans and submit a report by January 1, 1999, but was unable to do so at a reasonable cost due to relatively low enrollment. As a result, research has been focused on three primary areas: (1) customer interest in and satisfaction with the plans, (2) theoretical economic arguments and simulations supporting or refuting benefits and/or criticisms of the plans, and (3) simulations evaluating the savings component of the plans. An overview of prior research in each of these areas follows.

Most surveys of individuals regarding medical savings accounts indicate a high level of interest in the concept. Those who are already enrolled in such programs appear to be satisfied with their experience so far. A survey jointly conducted by the Kaiser Family Foundation and Harvard University found that medical savings accounts are indeed popular. In a random survey of 1,011 adults to determine whether or not people would choose an MSA given the opportunity, they found that if the deductible were $2,000, 43% said they would be "very likely" or "somewhat likely" to choose an MSA. If the deductible were

$5,000, 37% would be likely to choose an MSA. These results were consistent with market studies by the national Blue Cross Blue Shield Association that found 43% of employees would "definitely or probably" switch to an MSA if it were offered to them (Kaiser-Harvard, 1996). In a survey of employees at Golden Rule Insurance Company, 65% of MSA enrollees rated the MSA plan as "excellent" and 32% rated it as "good." The survey was conducted independently by the Luntz Research Group.

Despite the current paucity of statistically meaningful empirical data, many researchers have utilized economic models to simulate the effects of various public policies related to medical savings-type accounts. In a 1998 paper, Heffley and Miceli examined the economics of incentive-based health care plans. Using a model that allowed the consumer to invest in healthy activities, they examined the efficiency properties of incentive plans and compared them to traditional plans. They found that properly constructed incentive plans have the capacity to induce socially efficient levels of healthy activities and preventative care, raising the expected wealth of consumers without reducing insurers' profits.

Bond, Heshizer and Hrivnak (1997) analyzed health insurance cost data from Ohio public employers and private firms that had adopted Medical Savings Accounts. Their study showed that Ohio public employers could reduce their health insurance costs an average of 12% for single coverage and 34% for family coverage with MSAs, compared to traditional plans. Under the MSA plans, employee out of pocket costs (OPC) would also be lower compared to traditional plans.

Researchers at the Rand Institute contend that MSAs would be attractive to those who expect high health-care costs, because potential out-of-pocket expenses under traditional insurance are higher than under MSAs. The interventions the researchers evaluated differ in the deductibles of the catastrophic plan and in whether the employee or employer funds the MSA. If all insured nonelderly Americans switched to MSAs, their health care expenditures would decline by between 0% and 13%, depending on how the MSAs are designed. However, not all nonelderly Americans would choose MSAs; taking into account selection patterns, health spending would change by $+1\%$ to -2%.

In a comparison of employee-funded and employer-funded MSAs, traditional health insurance, and HMOs, Rand found that 57% of the population would choose an MSA. Employees choosing the employer-funded MSA would have an average income of $29,000, while those remaining in fee-for-service plans and those choosing an HMO would have an average income of $28,000 and $43,000, respectively (see Keeler et al., 1996).

A simulation done by Blue Cross/Blue Shield of Ohio provides the basis for that organization's strong opposition to MSAs. Using a sample of over 38,000 families, Blue Cross/Blue Shield documented claims of $159.3 million. Assuming family units were given an MSA of $3,000 and a $3,000 deductible plan was purchased for them at a cost of $1,200, BC/BS projected a deficit of $50 million from writing an MSA plan. However, as pointed out by Bond et al. (1996) the study ignores the fact that the 68% of families with claims under the $3,000 deductible would have a total of $53.7 million remaining in their MSAs.

Zabinski et al. (1999) used micro simulation methods to examine the equilibrium effect of medical savings accounts combined with catastrophic health plans on health care and nonhealth care expenditures, tax revenues, insurance premiums, and exposure

to risk. They contend that if MSA-CHPs are offered alongside comprehensive plans, biased MSA-CHP enrollment can lead to premium spirals that drive out comprehensive coverage.

The third area of research focuses on the savings component of the Medical Savings Account plans. One question that is critical to the viability of the plans involves the level of health care expenses paid out of the account versus the amount of funds placed in the account. A 1989 survey of about 1 million individuals in large self-insured health plans (adjusted to 1994 dollars), found that about one-third filed no claims, 73% filed claims for less than $300, and 89% filed claims for less than $2,000. It should be noted that self-insured health plans usually have very generous benefits (Jensen & Morlock, 1994).

The National Bureau of Economic Research studied 300,000 employees of Fortune 500 companies from 1989–1991 and found that workers who are sick in one year tend to have higher-than average medical expenses in the next few years. However, when medical costs exceed the deductible they would pay nothing or a low co-payment, up to the maximum out-of-pocket. This appears to be in agreement with a study by Berk and Monheit (1992) concluding that about ten percentage of the population is responsible for three-quarters of all U.S. health care spending in a given year. The average expenditure for people in the top 1% of spenders in 1987 was $63,497 (in 1995 dollars). Among people in the top 5% of spenders, the average expenditure was $24,735 (in 1995 dollars).

An MSA model was also created using the NBER study. The economists assumed maximum annual deductibles of $2,250 for individuals and $4,000 for families—and deposits of up to three fourths of the deductible in an MSA each year. They determined that by retirement, 90% of the workers would have saved more than $25,000 each in their MSAs and more than half would have saved $50,000 or more. Only 5% of the workers would have saved less than 20% of their employers' contributions over their lifetimes.

In 1997 The MediSave America Council calculated the projected growth of MSAs assuming an 8% annual return on the maximum allowable annual family contribution of $3,375. In five years an MSA would grow to $21,384, $166,802 in 20 years and more than $1.4 million in 45 years. With family medical expenses of $500 annually, the amounts would be $18,216, $142,091 and more than $1.2 million. At $1,000 of annual expenses, the numbers are $15, 408, $117, 379 and $991, 387. For individuals the maximum contribution is $2,250 a year. The account would grow without medical expenses to $9,266, $72,281 and $610,486. At $500 of expenses per year, the account would grow to $7,682, $59,925, and $506,129 and those at the $1,000 expense level would be $2,930, $22,858 and $193,060.

Jensen and Morlock (1994) calculated the growth of MSAs under different scenarios to estimate the impact of compounding MSA deposits would have on savings. Assuming a 20-year-old employee, and an eight percentage return on an $1,800 annual investment, the employee would have the following amounts based on these different medical expense scenarios:

Sufficient time has accrued for some initial data collection on the actual experience of

Average Annual Medical Expenses	Years	Amount Accumulated
Zero	5	$ 11,404
Zero	25	$142,118
Zero	45	$751,367
$250	5	$ 9,821
$250	45	$647,010
$1,000	5	$ 5,068
$1,000	45	$333,941

participating employees in selected MSA health plans. Preliminary results generally support forecasts for a significant accumulation of funds in the accounts. At the Golden Rule Company, the average refund returned to employees was $603 in 1993, $1,002 in 1994, $997 in 1995, $976 in 1996, and $925 in 1997. Total cumulative money and earnings left in funds from all Golden Rule MSA policyholders through 1997 was over $22 million dollars. Also in 1996, the Health and Hospital Corporation of Marion County, Indiana returned an average refund of $557 to its 314 employees, with 12% of employees receiving refunds of around $1,000.

A 1995 survey of 17 firms using MSAs found average remaining balances of around $600 for single MSA coverage. The amount was approximately $900 for family coverage. Up to 80% of the employees in these 17 firms had funds remaining in their MSAs at the end of the coverage year (Barchet et al., 1995).

4. Using the MSA as a primary savings vehicle

While federal guidelines state that an MSA account-holder can use MSA funds for certain medical expenses, it is not a requirement. Medical bills can be paid with money from some other account without touching the funds in the MSA.

Early indications suggest that many MSA owners may be exercising that option. A survey of MSA policyholders at Time Insurance Co. in Milwaukee found that 65% said they did not want Time to automatically send them a check from the account when they file a claim. If they are not saving specifically for a big medical purchase then most may be using their accounts as an additional savings vehicle (Panko, 1997). A Merrill Lynch financial consultant specializing in MSAs in California found that about 80% of employees view the plans as a way to supplement their long-term savings.

Which month the Medical Savings Account is opened does make a difference in that year. The savings element is affected by the timing of the purchase but the deductible is not. For example, if you open an MSA in October, you still have the full deductible, but you can only fund three twelfths (3/12s) of the savings account, so purchases are more appealing early in the year.

Much of the funding for the MSA can come from the reduction in insurance premiums. The savings in premiums when changing from a low-deductible to a high-deductible plan can vary anywhere from 20%–60%.

From a public policy perspective, the argument for encouraging savings via MSAs is appealing. According to the U.S. Census Bureau, the number of Americans most likely to need long term care (85 years and older) will double in the next 25 years, and the number of Americans over 90 will triple. Allowing individuals in their late thirties and early forties to have an MSA in which they could build up two or three decades of savings would give these individuals the funds to pay for drug therapies, nursing home care, and in-home care. They will not be forced to turn to Medicaid or Medicare programs when they need long term care, thus saving the U.S. government hundreds of millions of dollars in the future.

After considering the cost of administration, penalties, and contribution limits, it may be more prudent to maximize funding of a qualified retirement plan, such as a 401(k) plan, SIMPLE IRA, or Roth IRA before using an MSA for retirement purposes. However, there are feasible scenarios where an MSA would be attractive as an alternative or supplemental savings vehicle. There are those who have already contributed the maximum allowable to existing retirement plans, yet have sufficient compensation to fund an additional tax-advantaged opportunity. These individuals, if they qualify, would find the Medical Savings Account to be an attractive tool for supplementing their savings. Also, some may view MSAs as a prime way to build up a tax-deferred nest egg without bumping up against Section 415 (pension) limits.

A second scenario involves the individual contemplating the risk of medical expenditures without other health care coverage and with no retirement plan. For that person, it may be advisable to create and fund the MSA first. A comparison of the MSA eligible for federal tax preferences and the Roth IRA in their current formats, respectively, is presented in the next section of the paper.

5. MSAs vs. Roth IRAs

There are a number of similarities in the legislative structure of MSA accounts and Roth IRAs—and some notable distinctions. An insurance company or bank, as well as selected other financial institutions, can be a MSA trustee or custodian. Any entity already approved by the IRS as a trustee or custodian for IRAs is qualified as well.

5.1. Contributions

For Roth IRAs and MSAs, individuals' contributions must generally be made by April 15 of the year following the year for which the contributions are made. All contributions to the MSA and Roth IRA must be made in cash, and neither can be invested in life insurance contracts.

The maximum contribution allowed in the Medical Savings Account for 1998 was $3,375.00 for a family and $1,462 for an individual. The MSA contribution may not exceed compensation. Beginning after 1998, the high deductible dollar amounts are indexed for inflation in $50 dollar increments based on the Consumer Price Index. The actual MSA contribution that can be deducted is limited to 1/12 of the annual amount times the number of months an individual is eligible for MSA participation.

The maximum contribution allowed in a Roth IRA is $2,000 for an individual. A working couple with earned income can contribute $2,000 each into the Roth IRA. A nonworking spouse can also contribute up to $2,000 each year. The total amount of contributions to all IRAs (both traditional and Roth IRAs) for any taxable year may not exceed the lesser of $2,000 or 100% of compensation for the taxable year. In addition, the maximum contribution permitted under a Roth IRA is phased-out from $2,000 to $0 for individuals earning above a certain level of adjusted gross income. in-90

MSA contributions can be made by the employer or the employee, but not both in the same year. Contributions made by the employer, within limits, are excluded from the employee's compensation. Contributions made by individuals, with limitations, are deductions from adjusted gross income. Roth IRA contributions are funded entirely by the employee and are not tax deductible. Unlike regular IRAs, which do not allow contributions after age 70 ½, the MSA and Roth IRA do not put a maximum age on allowable contributions.

An excess contribution to an MSA occurs when the contributions exceed the deductible limits or are made for an ineligible person. Any excess contribution made by the employer is included in the employee's gross income, and the account holder is subject to a 6% excise tax on excess contributions for each year they are in an account. If the excess contributions are removed prior to the last day prescribed by law for filing an income tax return, the excise tax can be avoided. The treatment of excess contributions to a Roth IRA is essentially the same as the MSA.

5.2. Withdrawals

Regular IRAs require withdrawals to begin on the account no later than age 70 ½. There is no such requirement with MSAs or Roth-IRAs. Qualified medical withdrawals are permitted tax free in MSAs for a wide range of medical expenses. Qualified expenses are anything the Internal Revenue Service allows for a medical tax deduction. In addition, premiums for COBRA continuation coverage, long-term care insurance or services, and premiums for health insurance coverage while receiving unemployment compensation are also permitted tax free. Nonqualified withdrawals before age 65 are subject to a 15% penalty and are included in gross income for taxation purposes. When the insured MSA account holder reaches 65 years of age, withdrawals can be made with no penalty.

Any withdrawal from the Roth IRA that is not a qualified distribution is first considered a tax- and penalty-free distribution of contributions. Once an amount equaling the cumulative contributions to the Roth has been recovered tax-free, all further distributions that are not qualified will be subject to ordinary income tax. A 10% penalty tax is also assessed if the owner is not at least 59 ½ years old. A qualified distribution from a Roth IRA is both (1) made after a five-year holding period *and* (2) described by any one of the following:

(1) Made on or after the date the account holder reaches age 59 ½;
(2) Made to the designated beneficiary after the account holder's death;
(3) Made because of the account holder's permanent disability;
(4) A "qualified first-time homebuyer" distribution.

5.3. Rollovers/Transfers

A rollover from one MSA to another will not trigger income tax or penalties if made within 60 days of distribution. Also, one year must pass between tax-free rollovers. While there are a number of restrictions on the rollover of a traditional IRA into a Roth IRA, the rollover of the same type of IRA plans operates under the same basic rules as MSAs.

Transfers of MSA accounts pursuant to a divorce or separation order are not taxable. If the account holder dies or becomes disabled before age 65 the penalty tax does not apply. If the MSA account holder dies, the medical savings account is included in the gross estate for estate tax purposes. If the beneficiary is the surviving spouse, the MSA belongs to the spouse and he or she can deduct the account balance in determining the account holder's gross estate. The surviving spouse is then allowed to use the MSA for his or her own medical expenses. If the beneficiary is anyone other than the spouse, or there is no beneficiary, the MSA ceases to exist, and the beneficiary is required to include the fair market value of MSA assets in gross income for the taxable year that includes the date of death.

If eligible to receive an eligible rollover distribution from an employer's qualified retirement plan resulting from divorce or similar proceedings, all or part of the distribution may be rolled over to an IRA on a tax-free basis. A surviving spouse of a deceased employee may also be permitted to make a tax-free rollover contribution to a traditional IRA.

5.4. Taxation

Earnings in the MSA fund grow tax-deferred, and are tax-free if used for qualified medical expenses. Contributions up to the allowable amount are federally tax deductible if made by the employee. Employer contributions are not included in the employee's taxable income. Earnings on Roth IRA contributions accumulate on a tax-deferred basis and may ultimately be tax-free if the earnings are part of a qualified distribution. A qualified distribution is generally a distribution made after age 59 ½ and after the Roth IRA account is at least five years old. Contributions to a Roth IRA are not deductible for federal income tax purposes.

5.5. Summary

While many similarities exist between the two types of accounts, there are some significant differences. The MSA can be funded by either an employer or an employee, while the Roth IRA can only be funded by an employee. If used strictly for qualified medical expenses, the possibility exists for a tax-deductible MSA contribution combined with tax-free earnings. The minimum age for penalty-free nonmedical withdrawals from the MSA is 65, compared to a minimum age of 59 ½ for Roth IRAs. In addition, employee contributions to the Roth IRA can be withdrawn at any time subject to restrictions. Under current law, the maximum amount that can be deposited into an MSA is greater than the maximum Roth contribution for an individual. MSA contributions are made with before-tax dollars while Roth IRA contributions must be made with after-tax dollars.

6. Numerical analysis

This paper uses a series of single point forecasts to illustrate the viability of medical savings-type accounts as a retirement savings alternative. To support the theoretical exposition of the medical savings account as a viable savings alternative, a numerical analysis is performed simulating real-world conditions. The model uses an assumed general inflation rate of 3.1% annually. The cost of health care claims increases at a 4.7% rate. The general inflation rate is based on Ibbotson's forecast for the period 1999–2025. The health care inflation rate is based on a historical comparison of the CPI (All Items) with the CPI (Medical Care) and CPI (Medical Care Services). Account set-up or maintenance costs to the MSA owner are assumed to be zero. In actual practice set-up fees range from around $0 to $19 for the leading MSA custodians, and $0 to $5 for monthly maintenance fees.

To ensure an acceptable level of liquidity, the first $1,000 deposited in the MSA is left in a marketable securities fund invested in treasury bills earning 4.5%. The remainder of MSA funds are invested in large cap stock fund with an average return of 11.6%. Many existing MSA plans offered by financial services companies require a minimum amount be maintained in a liquid money-market type of account or an interest-bearing demand deposit account.

Early versions of Medical Savings Accounts limited investment of the savings portion in accounts paying a low fixed rate. Due to the increase in account balances and development of the account over time, many financial services firms offer an array of investment choices. For example, the MSA offered by Mellon Financial Corporation allows balances in excess of $3,500 to be transferred to a Dreyfus brokerage account. Those funds can then be invested in a wide variety of mutual funds and equity investments. The rates of return on assets are based on Ibbotson's forecasted returns for stocks and bills for the period 1999–2025.

The maximum allowable insurance deductible for the individual/family is assumed, and the maximum MSA contribution allowed, 65/75% of the maximum allowable deductible, is deposited into the account. The maximum deductible allowed is assumed to increase at 3.1% per year. Beginning after 1998, the high deductible dollar amounts are indexed for inflation in $50 increments based on the Consumer Price Index. The individual/family income tax rate is assumed to be 28%. The individual/family is eligible for MSA participation for the entire 12 months of each year modeled.

The "Low" "Average" and "High" claims levels are initially set at $500, $1,000, and $2,000 respectively. These amounts are based on the survey referred to in the Jensen and Morlock paper. The 1989 survey of about 1 million individuals in large self-insured health plans (adjusted to 1994 dollars), found that about one-third filed no claims, 73% filed claims for less than $300, and 89% filed claims for less than $2,000. The cost of health care claims increases at an assumed rate of 4.7% annually.

7. Results

The results of the numerical analysis generally support the conclusions of previous simulations regarding the growth of funds in MSA accounts. As shown in Table 1, column

Table 1
Ending balances in medical savings account for a family

Years in plan	[a] Tax-deferred growth (TDG) no claims	[b] Taxable growth no claims	[c] TDG with low claims*	[d] TDG with average claims*	[e] TDG with high claims*
5	$ 25,419	$ 23,134	$ 21,992	$ 18,565	$ 11,710
10	$ 73,687	$ 61,528	$ 63,442	$ 53,198	$ 32,709
15	$ 162,213	$ 123,398	$ 139,053	$ 115,894	$ 69,576
20	$ 321,248	$ 221,073	$ 274,332	$ 227,416	$133,583
40	$3,480,546	$1,509,879	$2,941,673	$2,402,799	$325,052

* Assumes no limit on out-of-pocket costs; in 1998 the OPC was $5,500 for families.

[a] the MSA for the family would grow to a tax-deferred balance of $25,419 after five years and $156,099 after twenty years assuming no claims or that claims are paid from a non-MSA source. These totals compare favorably with after-tax balances of $23,134 and $95,155 for the same time frames (column [b]).

Column [c] examines the effect of a relatively low level of claims ($500, indexed for inflation) withdrawn from the account annually. Tax-deferred growth would be reduced to $21,992 and $109,182 for the five-year and twenty-year time horizons, respectively. At an "average" claim level of $1,000 annually (indexed for inflation), the MSA account holder would end up with $18,565 and $62,266 remaining in the account after paying these claims. The balances remain positive even at a "high" claim level of $2,000 initially, then indexed for inflation. After subtracting the "high" claim payments from the MSA, thousands of dollars would remain in the MSA family account.

As seen in Table 2, the results are similar for the individual MSA with respect to growth and no claims paid out of the account. Tax-deferred growth would result in a five-year balance of $12,084 and a twenty-year balance of $156,099. The balances would remain positive with a "low" claims level and an "average" claims level as well.

Under the individual plan scenario, however, the fund balance in the plan could change drastically if claims begin to rise at a level approaching the $2,000 indexed threshold.

Table 2
Ending balances in medical savings account for an individual

Years in plan	[a] Tax-deferred growth (TDG) no claims	[b] Taxable growth no claims	[c] TDG with low claims*	[d] TDG with average claims*	[e] TDG with high claims*
5	$ 12,084	$ 10,715	$ 8,657	$ 5,230	−$ 1,624
10	$ 35,537	$ 28,044	$ 25,293	$ 15,048	−$ 5,441
15	$ 78,621	$ 54,768	$ 55,462	$ 32,303	−$ 14,015
20	$ 156,099	$ 95,155	$ 109,182	$ 62,266	−$ 31,566
40	$1,697,192	$561,449	$1,158,319	$619,445	−$458,302

* Assumes no limit on out-of-pocket costs; in 1998 the OPC was $3,000 for individuals.

Table 3
Ending balances in medical savings account for a family (assuming annual growth rate of health care expenditures equals six percent)

Years in plan	TDG with low claims*	TDG with average claims*	TDG with high claims*
5	$ 21,971	$ 18,406	$ 11,391
10	$ 63,366	$ 52,159	$ 30,626
15	$ 138,867	$ 112,383	$ 62,543
20	$ 273,937	$ 218,174	$115,085
40	$2,936,804	$2,224,307	$967,923

* Assumes no limit on out-of-pocket costs; in 1998 the OPC was $5,500 for families.

Column [e] of Table 1 illustrates that at an initial "high" claim level of $2,000 annually and rising, the balance of the account would have a deficit after the first year. The MSA limit for first year contributions would be around $1,508. This figure is based on a scenario of the maximum individual deductible of $2,250 increasing by a projected 3.1% C.P.I. to $2,320. Based on this amount, the maximum MSA funding allowable for that year would be 65% of $2,320, or $1,508. At the "high" level of claim activity the deficit would continue to grow and the account balance would stand at negative $14,015 after 20 years. The cumulative deficit would grow to negative $458,302 after 40 years. The effect of the different contribution maximums for individuals and families on plan balances is shown graphically. It should be noted that in most cases the level of claims for a family would, on average, be higher than the level of claims for an individual.

To test for the robustness of the data presented, another forecast was made using an annual growth rate of six percentage for health care expenditures. This growth rate is closer to actual price increases for various components of health care during the 1990s. As expected, the increase in the rate of medical inflation decreases the balances accumulated. The results of the analysis using a higher growth rate for claims are shown in Tables 3 and 4 below.

This model admittedly contains limitations that obviously have a significant effect on the results. It should be noted that this model assumes no cap on out-of-pocket expenditures. Under the 1996 Health Insurance Portability and Accountability Act, there is an out-of-pocket cap of $3,000 and $5,500 on individual and family plans, respectively. Such a cap would alter the results shown here dramatically. However, even with such a cap the difference would have to be covered by some entity, such as private insurance or government

Table 4
Ending balances in medical savings account for an individual (assuming annual growth rate of health care expenditures equals six percent)

Years in plan	TDG with low claims*	TDG with average claims*	TDG with high claims*
5	$ 8,576	$ 5,069	−$ 1,947
10	$ 24,771	$ 14,004	−$ 7,529
15	$ 53,702	$ 28,782	−$ 21,057
20	$ 104,554	$ 53,009	−$ 50,081
40	$1,069,000	$440,808	−$815,575

* Assumes no limit on out-of-pocket costs; in 1998 the OPC was $3,000 for individuals.

subsidized health care coverage. In either case the costs would be significant, resulting in either rising insurance premiums or higher government expenditures.

In addition, the model assumes that claims are level (adjusted for inflation) throughout one's lifetime. As evidenced by a Watson Wyatt Worldwide study (1996) this is not indicative of a person's medical expenditures during a typical life cycle. The average per capita health expenditure by age group in 1995 indicates an increasing level of spending dependent upon age group. From ages 5–44, the average per capita health expenditure was below $2,000; from ages 45–64 the average was between $3,000 and $6,000; and from ages 65–89 the average was between $8,000 and $13,000. Under this scenario, it might be possible for the individual MSA account to accumulate enough capital in the early years to offset the effect of large withdrawals to pay claims in the later years.

8. Conclusion

This paper examines the feasibility of Medical Savings Accounts as a practical savings opportunity. The numerical analysis is a refinement of previous simulations, as described in the literature review, in a number of areas. Actual forecasted rates of inflation, stocks, and bills for the years 1999–2025 are obtained from Ibbotson and Associates. Taxable and tax-deferred growth are computed and contrasted. The composition of assumed investments in the MSA more closely emulate actual practice. Claims scenarios are based on an extensive National Bureau of Economic Research study. The maximum allowable contribution is indexed in order to align the amounts more closely with the parameters found in the 1996 HIPAA pilot program.

A comparison of the MSA and the Roth IRA finds advantages and disadvantages in each plan. Strategies using a combination of a medical savings-type account and a retirement account may optimize the benefits available to qualified taxpayers. To the vast majority of individuals, the Medical Savings Account represents a viable personal savings vehicle. The 90% of the population that incur only one-fourth of the total U.S. health care expenditures would end up with a significant account balance upon retirement. For the ten percentage of the U.S. population that incur three-fourths of the total U.S. health care expenditures, the Medical Savings Account is not a practicable retirement funding alternative.

Under it's present structure, the MSA should not be considered as a complete replacement for other retirement savings vehicles such as the 401(k) and the various IRAs available. Future health status is the primary determinant of the success of the MSA as an effective savings tool. The uncertainty of an individual's future health expenditures makes the medical savings account an "all-or-nothing" proposal in some respects.

Most objective analyses acknowledge that Medical Savings Accounts have both pros and cons. However, the debate continues on whether MSAs would provide a net benefit or burden to the existing health care system. The argument for a medical savings-type account or a "Super IRA" that combines attributes of the MSA and the Roth IRA is compelling. This is especially critical to those within twenty-five years of retiring, as a means for "catching up" to acceptable savings levels for a comfortable retirement. Nevertheless, the challenge will be

to insure that the unhealthy ten percentage are not left behind or remain in a position that burdens the entire health care system.

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