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# Capital Instruments for Credit Unions: Precedents, Issuance and Implementation

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# Contents

## Abstract

This report discusses some of the mechanisms through which credit unions might issue capital instruments. The report notes the successful precedent of banks' issuing trust preferred securities (TPS). It discusses how the combination of long maturities and of call, extension and deferral options underpins regulatory treatment of TPS as bank capital

The report illustrates how depository institutions of various sizes can reduce their interest and issuance costs by tailoring capital instruments to fit their individual circumstances. The report also discusses how pooling the capital instruments issued by individual credit unions and adding credit enhancements would greatly expand access to financial markets and reduce capital costs of credit unions.

We conclude that it is technically and economically feasible for credit unions to issue various kinds of capital instruments. In our 2002 Filene report, *Subordinated Debt for Credit Unions*, we noted the benefits to credit union regulators of capital instruments. Together, this report and our 2002 report strengthen the case for reforms that would allow credit unions to issue capital instruments.

## Executive Summary

This report strengthens the case for reforming the capital rules that govern credit unions. In a 2002 Filene report entitled *Subordinated Debt for Credit Unions*, we argued that both credit unions and public policy could be strengthened by reform of capital (net worth) rules for credit unions. The generally strong conditions of credit unions may currently obscure the genuine desirability of reforming their capital rules. At the same time, their current conditions provide the opportunity to improve capital rules for credit unions, not under the duress of economic weakness or financial disruption, but, rather, when credit unions are strong and markets are stable.

Although bank holding companies can use a wide variety of voting and non-voting instruments to satisfy their capital requirements, credit unions can only use retained earnings. This report reviews how banks use non-voting capital instruments, such as trust preferred securities (TPS) to satisfy capital rules. It is economical only for larger banks to sell their TPS issues individually. Based on banks' experiences with TPS, only credit unions with more than $500 million in assets are likely to have large enough capital issues to be economically feasible.

By pooling issues of TPS, however, it has become economically feasible for large numbers of smaller depository institutions to issue their capital instruments into financial markets. As markets for banks' capital instruments matured in recent years, the minimum issue size needed to participate in pools fell markedly, thereby permitting many more, smaller institutions to access capital markets. The report illustrates how individual credit unions of modest size could also participate in pools of capital instruments.

This report details features of the instruments and markets for TPS. It shows issue sizes, issuance expenses, fixed and floating interest rate alternatives, relative interest costs, and other terms and conditions on stand-alone and pooled offerings.

## I. Introduction

This report addresses recent regulatory developments that allow banks to sell debt-like securities that qualify as capital for regulatory purposes. The report also addresses recent financial market developments that have increased access to capital markets and reduced costs sufficiently to make issuing capital instruments economically feasible for depository institutions of even modest size. The report discusses how pooling the capital instruments of individual issuers has made it economically feasible for large numbers of smaller banks to issue their capital instruments into financial markets. The report also shows that, as markets for banks' capital instruments matured in recent years, the minimum issue size needed to participate in pools fell markedly, thereby permitting even more smaller institutions to access capital markets. As these markets have matured, they have become increasingly flexible. For example, a single pool now often accepts different types of securities (for example, subordinated debt and trust preferred securities) and different types of institutions (for example, banks and thrifts). Thus, recent regulatory and market developments serve both as precedents and guides for reform of the net worth requirements that credit unions now labor under and for the economically feasibility of credit unions issuing and pooling capital instruments.

An earlier Filene report, *Subordinated Debt for Credit Unions* (SDCU) addressed three aspects of capital instruments for credit unions (Wilcox 2002). First, it compared credit union net worth requirements and bank capital requirements. Second, it presented a case for permitting credit unions to use subordinated debt to meet their capital (net worth) requirements.[1] Third, it discussed in general terms how pooling might reduce the costs of

[1] This report does not mean to exclude consideration of any alternative capital instrument. The SDCU report presented subordinated debt as one option among many.

subordinated debt sufficiently to make it economically feasible for smaller credit unions. The following paragraphs briefly review these aspects.

The SDCU report concluded that the net worth requirements for credit unions ushered in by the Credit Union Member Access Act of 1998 (CUMAA) are more onerous and less flexible than banks' capital requirements (Fed 2001, 2002, NCUA 2001). In addition to the higher minimum capital ratios that apply to credit unions, the only way for credit unions to manage their regulatory net worth is by retaining earnings. By contrast, banks manage their capital not only by retaining earnings, but also by issuing common stock with voting rights and by issuing a lengthening list of qualifying, non-voting securities such as preferred stock, trust preferred securities, and subordinated debt. The lack of flexibility to manage net worth often forces credit unions to exceed their minimum required net worth ratios by large amounts.[2]

The SDCU report presented a case for permitting credit unions to count subordinated debt toward required net worth. The SDCU report suggested how some of the flexibility enjoyed by banks could be reasonably extended to credit unions. That capital reform would provide credit unions with additional options for raising capital during periods of unusually high growth opportunities, low interest rate spreads, or high charge-offs. Because it would provide an avenue for them to acquire capital more rapidly, capital reform would allow credit unions to reduce their average capital ratios and boost their average dividends without sacrificing their safety and soundness.

[2] During the middle of the 1980s, credit unions had an average ratio of net worth-to-assets of less than 7 percent. By December 2001, that ratio had risen to nearly 11 percent, which was well above the 6 (7) percent required to qualify as being adequately (well) capitalized.

The SDCU report also recognized that high interest and issuance costs typically bedeviled small institutions that sought only small amounts of capital. Investors demand higher returns on small, and thus illiquid, issues. Legal, printing, and accounting costs per unit are considerably higher for smaller issues and issuers. Historically, interest and issuance costs have been high enough to effectively exclude small institutions from accessing broader capital markets.

As a potential solution, the SDCU report suggested that special purpose vehicles (SPVs) could pool smaller issues of subordinated debt issued by several, individual credit unions. Amassing larger volumes of subordinated debt would reduce risks and per-unit costs. Backed by these pools of credit unions' subordinated debt, SPVs could issue their own securities with lower interest rates and per-unit issuance costs. Thus, pooling would provide smaller institutions with access to broader capital markets.

This report complements and follows up on the SDCU report. It provides details on the recent development and characteristics of actual pools of banks' capital instruments, which are likely forerunners to pools of capital instruments for credit unions. Trust preferred securities (TPS) are currently the most common instruments in pools of banks' capital instruments. Thus, the report describes tax, accounting, and regulatory capital treatment of TPS, as well as other pertinent characteristics of TPS such as their call options and deferral options.

This report relied on information from a wide variety of written sources, both professional and academic, as well as on interviews with investment banks and credit unions. The report identifies investment banks that have become involved in organizing pools, describes how interest, dividend and issuance costs have fallen over time, and

discusses the likely issuers and purchasers of such alternative capital instruments. Discussion of the current participants and those likely to participate gives some indication of which institutions are likely to benefit from the opportunities to issue and pool instruments. The experiences of smaller banks suggest that a large number of credit union members belong to credit unions that are large enough to issue capital instruments on their own. Those experiences also suggest that many credit unions are large enough to participate in pools.

Pooling has lowered the minimum issue size needed to access financial markets. Nonetheless, pool organizers still enforce minimum sizes of institutions and of issues. These minimums vary slightly across pools. During 2002, minimum issue sizes ranged from $2-3 million. Minimum institution sizes were about $100 million in assets.

A few credit unions might have large enough issues to make their securities liquid in secondary markets and to make their per-unit issuance costs quite low. These credit unions would be likely to prefer the increased flexibility and control over timing and terms that come with having stand-alone offerings. According to market practitioners, when issue sizes rise above $10-15 million, most financial institutions have preferred to arrange public offerings of stand-alone issues.[3]

Minimum issue sizes tend to set minimum institution sizes. Varying combinations of market, management, and regulatory preferences lead institutions to hold varying amounts of capital. Suppose that the capital ratios at depository institutions range from about 5-15 percent of assets. This makes it unlikely that institutions interested in issuing

[3] Smaller public offerings (of for instance $8 million) are on record. Issuers could also opt for private placements of their securities if they find interested buyers. Section II C 2 includes comparisons of issuance costs for different size issues.

securities for capital management purposes would raise capital by as much as five percent of their assets. Because of the larger managerial efforts and higher explicit costs per dollar of capital raised by smaller issues, institutions are not very likely to have issues that raise capital of less than one percent of assets.

Based on these considerations, Tables 1 and 2 below classify banks and credit unions by asset size. As of 2002, issues from banks with less than $100 million in assets were not accepted into pools. Banks with $1 billion in assets or more are unlikely to raise capital by less than one percent of assets ($10 million). With issues of $10 million or larger, they are likely to find stand-alone issues preferable to pooling. Thus, institutions between $100 million and $1 billion are the most likely pool participants. For example, a $200 million institution that wanted to increase its capital by three percent of current assets would be likely to find selling its $6 million issue to a pool to be economically attractive.

**Table 1**

**Distribution of Banks by Asset Size**
**(June 2001)**

| Asset size (in $ millions) | Number of banks | Percent of banks | Assets (in $ millions) | Percent of assets |
|---|---|---|---|---|
| 0 – 100 | 4,685 | 57.3 | 227,954 | 3.6 |
| 100 – 1,000 | 3,101 | 37.9 | 789,808 | 12.4 |
| 1,000 – … | 392 | 4.8 | 5,342,401 | 84.0 |
| Total | 8,178 | 100.0 | 6,360,162 | 100.0 |

Source: FDIC 2002 www.fdic.gov/bank/statistical/statistics/0106/cbrc01.htm

**Table 2**

**Distribution of Credit Unions by Asset Size**
**(December 2001)**

| Asset size (in $ millions) | Number of credit unions | Percent of credit unions | Assets (in $ millions) | Percent of assets |
|---|---|---|---|---|
| 0 – 100 | 9,366 | 90.4 | 145,728 | 28.3 |
| 100 – 500 | 824 | 8.0 | 176,252 | 32.2 |
| 500 – … | 165 | 1.6 | 192,712 | 37.4 |
| Total | 10,355 | 100.0 | 514,691 | 100.0 |

Source: CUNA 2002 doig.cuna.org/download/curep_d01.pdf

Depending on their assets and issue sizes, some credit unions would have the choice of whether to stand alone or to sell their issues into a pool. Some would be large enough that stand-alone issues would be preferable. And, some credit unions are not large enough to have their issues in a pool. Table 1 shows that the overwhelming majority of bank assets (84 percent) are in banks that are large enough to bypass pools. Banks that are currently eligible to participate in pools held nearly $800 billion of assets.

Among credit unions, there are (1) institutions that are large enough to bypass pools, (2) institutions that would be expected to issue through pools, and (3) institutions that are too small to participate in pools. The share of credit unions that are not large enough to meet the current minimum size required of banks is very large (90.4 percent vs. 57.3 percent of banks). Note, however, that about one-third of credit union assets are in credit unions that are large enough to issue capital instruments on their own. Another one-third of credit union assets are in credit unions that are large enough to participate in pools.

Section II describes trust preferred securities (TPS), discusses the workings of TPS pools, and shows interest, dividend and issuance costs typical of TPS. Section III discusses the implementation of capital instruments for credit unions. It points out that existing pools of TPS serve as a precedent and model for pools of credit union capital instruments. Next, we discuss how the use of TPS and subordinated debt varies with bank size. This section then describes some of choices that will be available when structuring capital instruments and pools. Section IV briefly concludes.

## II. Precedents

The Credit Union Membership Access Act of 1998 (CUMAA) imposed explicit net worth requirements on credit unions. Credit unions now can only use retained earnings to meet their net worth requirements. In contrast, throughout the 1990s, the largest banking organizations used a lengthening list of voting and non-voting securities to meet their regulatory capital requirements. To facilitate their issuing of similar capital securities, smaller banks and thrifts began to pool their individual issues of capital

securities. These instruments and their pooling mechanisms provide precedents for the issuance and pooling of capital instruments by credit unions.

Trust preferred securities (TPS) are the most common instruments in the pools of banks' and thrifts' capital instruments. In the following sections we describe the typical features of TPS in some detail. We also discuss the different issuance mechanisms that are available: public offerings, private placements, and pooled offerings. We show that, as these markets have matured, costs have fallen, as have the required minimum sizes of issuing institutions and of issues. As these markets mature, pools are becoming increasing flexible, accepting various types of instruments from various types of institutions. These sections also point to issuance options and likely costs for credit unions. Section III explicitly discusses what the pooling experiences of other small financial institutions imply for credit unions.

**A. Trust Preferred Securities (TPS)**

Trust preferred securities are recent additions to the financial markets and to bank capital structures. Texaco issued the first of these debt-equity hybrids under the name of Monthly Income Preferred Securities (MIPS) on October 27th, 1993 (Benston 2001:3). On October 21st, 1996, the Federal Reserve authorized the use of TPS to meet bank (holding company) regulatory capital requirements. Since then, these securities have grown in popularity and have been issued by both nonfinancial and financial companies (Stifel 2002:1). During the 1990s, total issuance exceeded $150 billion (BMA 2002). Whereas the term "trust preferred securities" is gaining the most acceptance, the securities trade under a variety of names and acronyms including: capital securities,

QUIPS, QUICSSM, QUIDSSM, SKISSM, TOTPrS™, TruPSSM, and several others (BMA 2002).

To satisfy bank capital requirements with TPS, a bank holding company (BHC) sets up a wholly owned special purpose subsidiary (SPS) to issue its own preferred stock (TPS) to outside investors. The SPS uses the proceeds from the sale of the TPS to purchase interest-deferrable subordinated debt of the "longest feasible" maturity from the bank holding company (BHC). Doing so simultaneously provides the BHC with some of the most attractive features of debt and of equity. Like its payments on other debt, the BHC's payments to the SPS on its subordinated debt are tax deductible. Like its payments on its preferred stock, the SPS's payments on TPS may be deferred in times of financial distress without triggering default. Like equity capital, TPS count toward bank regulatory capital requirements. TPS is also a debt-equity hybrid in that, in liquidation, TPS are junior to all other debt but are senior to BHC preferred and common stock.

The following sections discuss various features of TPS issues in depth, including their tax and accounting treatment, the business trust structure of the subsidiary, maturity, call options, interest and dividend terms, deferral options, and their regulatory capital treatment.

**1. Tax and accounting treatment**

The tax and accounting treatment of TPS includes aspects that are relevant for both issuers and holders. For issuers, one of the main attractions of TPS is that they both qualify as bank regulatory capital and provide tax-deductions for their interest payments. Despite TPS holders ultimately receiving their payments from the parent BHC, current tax legislation hinges on the fact that BHCs make their payments as interest on

subordinated debt. In particular, IRS Notice 94-97 ratifies that, for federal corporate income tax purposes, TPS are debt and their payments are therefore tax deductible for the issuer (Weinstock 2000a).[4] Since the required rate of return for common stock is typically imputed to be between 10 and 15 percent (Simkin 1997:533), being able to deduct payments made on TPS and the underlying subordinated debt makes raising capital via TPS very attractive. At current tax rates and TPS interest rates, this tax deductibility may easily amount to savings of 300 basis points (FRBKC 2001:1).

The subsidiary structure does not affect adversely the taxation of payments to TPS holders. Because payments made by the BHC to its subsidiary are deemed to be intracompany transactions, current tax law does not require wholly owned consolidated, non-operating subsidiaries to pay federal corporate income taxes on the interest payments they receive. Thus, the subsidiaries act as pass-through entities, passing the interest payments they receive to TPS holders as dividends. In the end, current tax law requires TPS holders to pay taxes on the dividends they receive, but the subsidiary structure does not induce an additional layer of corporate taxation.

Regarding the accounting treatment of TPS, under Generally Accepted Accounting Principles (GAAP) and Securities and Exchange Commission (SEC) accounting rules, trusts are not required to issue separate financial statements. Since these trusts associated with TPS are wholly owned, have no independent operations, have their operational costs covered by the BHC, and are guaranteed by the issuer, they are consolidated within the accounts of the parent BHC (Baylake 2001:4, Weinstock 2000b:2). Since the BHC subordinated debt is an intracompany transaction, it is not listed

[4] Federal budget proposals made by the administration during the late 1990s threatened this tax deduction. However, the tax status of TPS has not been threatened since then.

in the consolidated balance sheet of the BHC. Instead, the face value of the TPS is reported as a minority interest in a consolidated subsidiary, either within the liability section or in the mezzanine section, between liabilities and equity. Also, BHCs may classify TPS differently for different purposes – for example, as debt under GAAP and as minority interest for capital regulatory purposes (OCC 1997:3).

**2. Business trust structure**

The previous section discussed how BHCs set up subsidiaries to which they pay interest in order to receive a tax deduction on their payments to TPS holders. These subsidiaries are referred to by different names – special purpose subsidiary, vehicle, or entity – and may adopt different legal forms – limited liability companies, limited partnerships, or trusts. The current state-of-the-art in the industry is the Delaware statutory business trust. This structure permits investors to report dividend income for federal income tax purposes using a form 1099 instead of a form K-1, which is less popular with investors (Stifel 1997:15).

As dictated by tax considerations, a BHC holds all the common stock, and thus voting rights, in its business trust – typically 3 percent of the trust's expected assets. The business trust, in turn, issues preferred stock up to the additional 97 percent. The trust uses all proceeds from the sale of preferred and common stock to purchase the interest-deferrable subordinated debt that is issued by the BHC. For example, if a BHC purchases $3 million of the common stock of its trust and then sells to the trust $100 million of subordinated debt, the BHC, in effect, raises $97 million from investors and pays to itself interest on $3 million of subordinated debt. Thus, the BHC often does not carry out the cash transaction associated with the common stock purchase. Rather, it simply issues the

$97 million of subordinated debt (Simkin 1997:536). Tables 3a-3d show the effects of TPS issuance on the unconsolidated and consolidated balance sheets of a simplified BHC.

**Table 3a**
**Consolidated BHC before issuance of TPS**

| Assets | | Liabilities | |
|---|---|---|---|
| Cash | 3 | Deposits | 9,003 |
| Other | 10,000 | Equity | 1,000 |

**Table 3b**
**Unconsolidated BHC**
**After issuance of TPS**

| Assets | | Liabilities | |
|---|---|---|---|
| (Trust's) equity | 3 | Deposits | 9,003 |
| cash | 100 | Sub debt | 100 |
| other | 10,000 | Equity | 1,000 |

**Table 3c**
**Business Trust**

| Assets | | Liabilities | |
|---|---|---|---|
| BHC sub debt | 100 | TPS | 97 |
| | | Equity | 3 |

**Table 3d**
**Consolidated BHC after issuance of TPS**

| Assets | | Liabilities | |
|---|---|---|---|
| (initial) cash | 3 | Deposits | 9,003 |
| (additional) cash | 97 | TPS | 97 |
| (initial) other | 10,000 | Equity | 1,000 |

The BHC typically pays all of the operating expenses of the trust other than the dividends on its common and preferred stock. The trust's only obligation and function is to make dividend payments on its preferred stock in identical terms to the interest received on BHC subordinated debt. Upon maturity of the underlying subordinated debt, trust preferred securities are redeemed and the trust expires. As a final safeguard for investors against the possibility of malfeasance by trust administrators, the BHC

guarantees the trust's dividends and principal with a claim junior to BHC subordinated debt, but senior to BHC preferred stock.

**3. Maturity, extension options, and call options**

TPS are required by the Federal Reserve to meet a variety of conditions in order to qualify as bank regulatory capital. TPS are required to have the longest feasible maturity (Fed 1996) and TPS holders may not have put options (i.e. ones that require issuers to accelerate prepayment of principal) (Fed 2001:174). Some issues are perpetual (Howe Barnes 2001:18). But, almost all interpret the length requirement to mean an original maturity of 30 years. However, call and extension options provide issuers (but not holders) with additional flexibility to shorten or lengthen the maturity of a TPS issue (Gardin 2001, FRBKC 2001:3, Stifel 2002:3).

Significant numbers of TPS issues include in their indentures options to extend the maturity of an issue by a number of years. Upon exercise of this option, the repayment of principal is postponed until a new maturity date, with interest and dividend payments continuing to accrue until that date. The length of postponement is preset typically at 9 or 19 years (Stifel 2002:3), but rarely at more than 19 years (BMA 2002). According to interviews, the Federal Reserve favors including these options, because they enhance the capital (i.e. shock absorbing) nature of TPS. For example, if a TPS issuer was experiencing liquidity problems when an issue matured, the extension option would permit the issuer to delay repayment of principal until a short-lived liquidity problem passed.

The overwhelming majority of TPS issues also include maturity-shortening call options. Upon exercise of this option, subject to Federal Reserve approval (Fed 1996), the

issuer may prepay its principal and end the obligation to make future interest and dividend payments. In practice, this option may permit issuers to refinance their obligations under better terms when interest rates fall by offering a new issue at the lower interest rates and using the proceeds to pay off the earlier issue. Clearly, call options are attractive for issuers, and investors may demand a premium for issues that include them.

Initially, it was widely assumed that the Federal Reserve required the inclusion of a call option in order for TPS to qualify as regulatory capital (Fed 1999:49). However, a so-called "bullet" issue – one without a call option – received Federal Reserve approval in 1999. Bullet issues were then expected to become popular with investors and issuers, because they provide investors with greater certainty about the time span over which they would receive payments and would therefore permit issuers to pay lower interest rates. Indeed, at the time of the 1999 issue, investment bankers estimated that issuers would enjoy yield reductions on bullet issues of 20-30 basis points (Padgett 1999a).

To date, however, bullet issues are rare, due in part to flexibility that call options provide to issuers. Typical earliest call dates range from as little as five years to as much as ten years after issuance (FRBKC 2001:3). Some call options require the issuer to pay a premium, while others do not. Earlier issues often included a schedule of premiums that declined from an early high premium of as much as 6 percent to the par value of the issue over a 5-10 or a 10-20 year period (Salomon Smith Barney 2000:19).

As the markets for TPS matured, issuers have obtained better terms for call options. The earliest call dates and the schedules of declining premiums are being brought forward and compressed, respectively. Thus, typical schedules for declining premiums were shortened from 10-20 to 5-10 years. More recently, call options with no

premiums after five years are common. In addition, whereas call options on earlier issues required issuers to call in issues in full, parts of issues can sometimes now be called.

Finally, TPS indentures also contain provisions that permit issuers to call in their TPS issues independently of the stated call dates if, for example, certain legislative events alter the regulatory or tax treatments of TPS. These provisions include so-called capital events, tax events, and investment company events (Baylake 2001:28-29). Capital events refer to adverse changes in the regulatory capital treatment of TPS (see section II A 5 below). Tax events refer to changes in the tax deductibility of interest payments by BHCs on their subordinated debt. Investment company events refer to the removal of the exemption, from which these trusts benefit, to register as investment companies under the Investment Company Act of 1940.

**4. Interest and dividend terms and deferral options**

Because the issuing BHC covers all of the other operating costs of the trust, the trust can make dividend payments that equal the interest payments that it receives. TPS issuers have a great deal of flexibility regarding their interest and dividend payments both at the time of issuance (fixed vs. floating rates, etc.) and during the life of the security (deferral options). The recent evolution in the interest and dividend rates paid by TPS for various issue features is shown below in section II C 1.

Issuers can choose the frequencies with which they make TPS payments. The markets have embraced TPS that make either monthly (MIPS), quarterly (QUIPS), or semiannual payments. The interest (and thus dividend) rate may be fixed at the time of issuance, may have a pre-set step schedule, or may float with other interest rates. Fixed-rate issues are typically set at a premium over the yield on 30-year U.S. Treasury bonds

(Stifel 2002:1). Coupons paid on floating issues are typically reset with each payment, typically based on some benchmark rate, such as the yield on the 3- or 6-month Treasury bill or the U.S. dollar London Interbank Offer Rate (LIBOR) (Stifel 2002:1, Fitch 2002a). However, under Federal Reserve regulations (Fed 2001:174), some interest and dividend structures would prevent TPS from qualifying as regulatory capital. These include so-called exploding-rate step schedules that could climb to prohibitively high interest rates and, thereby, effectively force exercise of the call option prior to maturity and variable rates that are linked to the condition of the particular institution (Fed 2002a:8).

To qualify as regulatory capital, the Federal Reserve also requires TPS issues to include a deferral option (Fed 1996). Upon exercise of this option, a BHC has the right to defer interest and dividend payments for up to five years without triggering a technical default. Deferral of TPS dividends also requires the suspension of BHC preferred and common dividends. The rationale for the deferral option is that its exercise makes TPS act more like equity capital, with temporary reductions in interest and dividend payments helping to cushion the BHC against its difficulties. In addition to requiring the inclusion of this option, Federal Reserve regulations also forbid BHCs from paying TPS dividends if those dividends would be in excess of bank earnings, even if the BHC has the available cash (Yahoo 2000, 2001).[5]

Even while cushioning BHCs from some adverse circumstances, TPS also provide some protections and certainty to investors. Since most TPS issues are cumulative, the deferred payments have to be paid within five years.[6] Moreover, the accumulating deferred payments accrue interest at the TPS coupon rate (Baylake 2001:6).

[5] The BHC may apply for a waiver to pay TPS dividends if it has available cash.

Also, before a BHC may start a second or additional deferral period, it is required to pay all its deferred interest payments and the associated accrued interest.

The prospectuses for many TPS issues state that the issuers believe the likelihood of deferrals to be remote (Simkin 1997:546). Thus far, deferrals have been very rare. Interviewees from investment banks report that no deferrals or defaults have taken place to date among the participants in the pools that they have organized. The few reported cases of deferrals occurred in the public offerings of BHCs. These deferrals typically were triggered by the Federal Reserve requirement not to distribute dividends beyond bank earnings, rather than by a lack of cash. Whereas these institutions often apply for waivers and seem willing to make the interest and dividend payments, the Federal Reserve has not granted those waivers (Yahoo 2000, 2001).

## 5. Regulatory capital treatment

Despite their attractive tax treatment, TPS became widely used in banking only after the Federal Reserve announced on October 21st, 1996 that TPS issues could be used to meet Tier 1 capital requirements (Fed 1996, Sinkey 1998:18).[7] This implies that TPS issuance is driven primarily by the need to meet regulatory capital requirements and less by the tax deductibility of interest payments.

Existing common shareholders may prefer the issuance of TPS to the issuance of more shares of common stock. TPS do not provide voting rights in the issuing BHC and are paid at most the stated coupon rate. Thus, TPS do not dilute the control that

[6] The TPS holder is subject to income taxes based on the accrual of dividend payments, and not on their actual receipt.

[7] Despite some initial uncertainty (Simkin 1997:532, Padgett 1998), rating agencies now broadly treat TPS as capital, as recommended by regulatory authorities (Stifel 1997, Sinkey 1998, Reid 2002:8).

shareholders have over an institution. Nor do they create additional claimants for funds if the BHC does better than expected (Weinstock 2001).

The Federal Reserve requires TPS issues to meet a number of conditions to qualify as regulatory capital. These include informing the Federal Reserve prior to a TPS issue, using the longest feasible maturity (at least 30 years), not including put options, obtaining permission from the Federal Reserve to exercise call options, no variable interest rates based on an institution's condition, and including a 5-year deferral option. The rationale for treating TPS as a form of regulatory capital is that their deferral and maturity extension options give BHCs a measure of protection during times of financial stress. Through these options, BHCs can defer interest and dividend payments for up to five years and postpone the repayment of principal for up to nineteen years. These periods are longer than any occurrence that could be defined as a short-term difficulty for a financial institution.

**a. Bank Holding Companies count TPS as capital**

Detailed descriptions of bank and BHC regulatory capital requirements appear in a wide variety of sources, including the previous report *Subordinated Debt for Credit Unions* (Wilcox 2002) and the current Code of Federal Regulations.[8] In general, low capital ratios lead to increasing restrictions on the choices and activities of financial institutions. For instance, to be classified as adequately capitalized, BHCs are required to hold 3 percent of their unweighted assets as core (Tier 1) capital, 4 percent of risk-weighted assets as Tier 1 capital, and 8 percent of risk-weighted assets as total capital (core plus supplementary (Tier 2) capital). Under current capital regulations, as a BHC's capital condition deteriorates, it has fewer choices and more obligations.

BHCs may count the following instruments toward Tier 1 requirements: common equity (common stock, surplus, and retained earnings), perpetual noncumulative and cumulative preferred stock, and minority interests in the equity accounts of certain consolidated subsidiaries, including TPS.[9] The instruments that BHCs may use for Tier 2 requirements include finite-term preferred stock, hybrid instruments that combine equity and debt characteristics, subordinated debt, allowances for loan losses, and unrealized gains on equity securities.

**b. Limits on TPS counted as capital**

While instruments qualify as regulatory capital, there are also quantitative limits on the amounts of various instruments that can be used to meet Tier 1 and Tier 2 requirements. These limits are broadly based on the ability of each instrument to absorb losses. For instance, unlimited amounts of common equity may be counted toward Tier 1. There is no formal limit on the amount of perpetual noncumulative preferred stock that may be counted toward Tier 1, but there is an informal understanding that common equity should account for the majority of Tier 1.

The total amount of perpetual cumulative preferred stock that may be counted toward Tier 1 is capped at 25 percent of the total amount of Tier 1. For any instrument, excess amounts may be held, but they will not count toward the same capital requirement. In the case of perpetual cumulative preferred stock, amounts in excess of the cap for Tier 1 count toward Tier 2 (Fed 2001:194, FRBKC 2001:2). The total amount of Tier 2, in turn, is capped at the amount of Tier 1 itself. The rationale for treating cumulative and

[8] For a summary table, see Fed 2001:194.
[9] Issuers of noncumulative preferred stock may skip dividend payments as long as dividends are not being paid to common stockholders. Issuers of cumulative preferred stock may also skip dividend payments, but

non-cumulative preferred stock differently is that non-cumulative stock places smaller demands on the cash flow of a BHC and thus offers protection more akin to that provided by common equity.

There are also limits on how much TPS can be counted as capital. The Federal Reserve Press Release from October 21st, 1996 states that "the amount of these instruments (TPS), together with other cumulative preferred stock a bank holding company may include in Tier 1 capital, is limited to 25 percent of Tier 1". Like excess amounts of BHC preferred stock, excess amounts of TPS count toward Tier 2 capital (Fed 2002b:34, FTN 2002b). Up to the limit of one half of Tier 1 capital, the sum of finite-term preferred stock plus subordinated debt qualifies as Tier 2 capital. However, the Federal Reserve treats TPS the same as it treats perpetual preferred stock on the argument, apparently, that TPS maturities are, in effect, nearly perpetual.

**c. Complexities of TPS regulations**

The details of capital regulations are complex, not only across different types of institutions, but also for any given type of institution. These differences and complexities arise across institutions of different size or of different institutional structure (i.e. with or without a BHC), and are likely to continue to evolve. For instance, under its current "small company policy", the Federal Reserve capital requirements described thus far apply only to BHCs with more than 150 million in assets (Weissman 2001). TPS are also normally excluded from debt-to-equity ratios for larger BHCs, but they may be included as equity for small BHCs (FRBKC 2001:5).

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the skipped dividends are only deferred and need to be paid in full before dividends are paid again to common stockholders.

This report has thus far addressed capital regulatory treatment at the BHC level, not at the bank level. The capital regulatory treatments that apply to BHCs and banks are broadly similar. However, some important differences arise regarding the treatment of cumulative and finite-term securities. For instance, the Office of the Comptroller of the Currency, the regulator for national banks as opposed to BHCs, permits the use of cumulative or finite-term preferred securities toward bank-level Tier 2, but not toward Tier 1 (OCC 2000:4, FRBKC 2001:5). The OCC has authorized the use of TPS issues to meet up to 15 percent of bank-level Tier 1, along with other innovative instruments, if the securities are noncumulative and perpetual TPS, although they may be callable or convertible into regular preferred stock (OCC 2000:4).

Real Estate Investment Trust Preferred Securities (REIT-preferreds) are another example of differences in the capital regulatory treatment of BHCs and banks. The structure of a REIT is similar to the structure used to issue TPS, holding as assets obligations issued by a financial institution and issuing securities to outside investors. The main difference is that REITs do not hold unsecured subordinated debt, but senior claims on the principal and interest flows from clearly defined sets of bank real estate mortgages. Following a separate 1996 Federal Reserve ruling, banks, but not BHCs, were permitted to count the minority interest in the REITs toward Tier 1 capital (Kline 1998:7).

The regulatory treatment of TPS is likely to continue to evolve. On one hand, different administrations or Congresses could revisit the tax deductibility of the subordinated debt held by wholly owned trusts. On the other hand, the results of the ongoing international negotiations of the Basle Committee on Banking Supervision

(known as Basle II) are expected to become binding by 2006 (Mackintosh 2002). Whereas much of the Basle process has come under heavy criticism by many parties (Weissman 2001:2, The Economist 2002:75), the end result is expected to lower the amount of TPS permitted in Tier 1 to 15 percent (FRBKC 2001:2).

**B. Issuance mechanisms for TPS**

In *Subordinated Debt for Credit Unions,* we pointed out that financial institutions interested in issuing small amounts of securities have traditionally been thwarted by prohibitive interest and issuance costs (Wilcox 2002). The recent development of pooling mechanisms for TPS and subordinated debt issued by the holding companies of banks and thrifts provides a precedent and a guide for the implementation of similar mechanisms for credit unions. In the introduction to this report, Tables 1 and 2 loosely classify banks and credit unions by size to show the range of potential candidates for issuing or pooling securities.

The following sections survey issuance mechanisms available to financial institutions. After a brief outline of public offerings and private placements, this section concentrates on the development and structure of pooling mechanisms. Since it may be of interest to small financial institutions, this report includes as examples the names of several investment banks with experience with smaller financial institutions or pools.[10] Estimates of interest and issuance costs appear in the following section (II C).

**1. Public offerings**

Though still evolving, certain patterns are beginning to repeat in the TPS market as issuers, investment banks, and investors develop relationships with one another. For

[10] This report neither endorses nor recommends any particular investment banking firm over the rest of the industry. For an example of an endorsement by a market participant, see ABA 2001.

instance, separate retail (with typical share sizes of $10 or $25) and institutional markets (with typical share sizes of $1,000) for TPS have developed. Many retail issues have become fairly liquid and are traded in a variety of markets including the American Stock Exchange and NASDAQ (Baylake 2001, NASDAQ 2002). Not surprisingly, larger issues have greater liquidity (Weissman 2001:3). For instance, across the issues followed by one investment bank, the average issue saw 0.13 percent of shares (over 3,000 shares) trading daily. The most liquid issues (trading 0.66 percent of shares daily) were among the largest and the least liquid issues (trading 0.01 percent) were among the smallest (Stifel 2002:6).

Issuers and investment banks are also pairing up by size. Larger financial institutions engage in larger issues, do not participate in pools, and are assisted by larger investment banks (e.g. Salomon Smith Barney (Citigroup)). Larger investment banks also have not become involved in stand-alone issues smaller than $25-50 million. Smaller financial institutions that are interested in smaller stand-alone issues typically use regional and/or niche investment banks (Weinstock 2000b:3). Some examples of investment banks with experience in servicing smaller issuers that have smaller stand-alone issues include Stifel, Nicolaus & Company; Howe Barnes Investments; and Keefe Bruyette & Woods.

Issuing institutions and issue sizes vary widely. TPS issuers include both nonfinancial and financial companies and, within the latter, the holding companies of both banks and savings and loans (Stifel 2002:1). Typical stand-alone issuers hold over $1 billion in assets, but there have been some issues by institutions in the $200-400 million range (Weissman 2001:4, HB1 2001:18). During the late 1990s, BHCs issued

over $31 billion in TPS with an average issue size of $188 million (Benston 2001:8). The typical minimum issue size for retail placements has hovered around $10-15 million for both TPS and subordinated debt, but there have been smaller stand-alone issues (Padget 1997, Luedke 1998:3, Weissman 2001:4, HBI 2001:18, 2002, KBW 2002, Stifel 2002:3).

**2. Private placements**

For smaller and typically unrated financial institutions, the combination of high fixed issuance (legal, accounting, printing, and marketing) costs, SEC reporting requirements, and higher interest rates for their illiquid issues has meant that the terms available for public offerings were often economically infeasible (Fitch 2001:2, Salomon 2001a:5). Prior to the development of pools, the alternative to a public offering was to find investors willing to entertain private placements and, thus, the nearly complete illiquidity of unlisted securities. Thus, before the development of pools, the TPS market for community banks was dominated by private placements (Howe 2002).

Financial institutions could use investment banks to locate outside investors for private placement of TPS, or they could rely on "friends of the bank" such as directors to purchase TPS issues. One advantage of private placements was their far lower issuance costs and reporting requirements. However, outside investors often required higher interest costs in exchange for foregoing liquidity (Weissman 2001:4). Examples of investment banks that have been involved in the private placement of small amounts of securities include Stifel, Nicolaus & Company; Ryan, Beck & Co.; Keefe, Bruyette & Woods; and, in particular, Samco Capital Markets (Ryan 1998, Weinstock 2001:5, KBW 2002).

### 3. Pooled offerings

Over the last three years, pools have supplanted private placements as the dominant issuance mechanism for TPS and subordinated debt among smaller financial institutions. Several investment banks have become active in organizing pools, which have raised over $6 billion across hundreds of smaller banks (Weissman 2001:4, Howe 2002). Citigroup's Salomon Smith Barney organized the first TPS pool that was diversified across multiple small institutions in March of 2000 (Salomon 2001a:1). The partnership of First Tennessee Financial and Keefe, Bruyette & Woods (FTN/KBW) followed with its first pool in September of 2000. Since then, their track record of seven successful pools totaling over $3 billion across hundreds of institutions has led to their endorsement by the American Bankers Association (Fitch 2001:1, FTN 2002a, ABA 2002). Beyond those two industry leaders, other firms that have either worked with Citigroup, that have developed their own pools, or that are in the process of developing their own pools include: Stifel, Nicolaus & Company; Bank One; Sandler O'Neill & Partners; Bear Stearns; and CS First Boston.

Financial institutions interested in larger issues of securities (i.e. above $15 million) find it advantageous to engage in stand-alone public offerings since pooled offerings, thus far, have paid higher interest rates. Issuers in stand-alone offerings also have the flexibility of not having to match their terms and timing to those of any other pool participants. Moreover, the fixed issuance costs of a public stand-alone offering can be prohibitive for small issues, but decline quickly for issues above $15 million. However, pooled offerings permit previously unrated, smaller financial institutions to forego individual registrations with the SEC, to avoid the associated reporting

requirements and to share marketing, printing, legal, and accounting expenses across the participants in the pool. As a result, unless they secure a steady supply of "friends of the bank" willing to entertain low interest rates, small financial institutions find that pools offer lower interest and issuance costs (Weissman 2001:4).

The remainder of this section (1) surveys some of the developments in the terms offered to pool participants, (2) describes organizational structures and credit enhancements typically used by pools, and (3) discusses how successful implementation of pools requires geographical diversification and the approval of rating agencies.

**a. Favorable evolution of terms for pooled offerings**

Although pool participants must adopt common terms and timing, pools provide access to financial markets for financial institutions that had been previously considered too small to have their own issues of public debt (Fitch 2001:3). Moreover, pools are becoming more flexible in a variety of ways, including the range of participating institutions and instruments, minimum issuance size, minimum institutional size, and the terms of call options. For instance, many pools are open simultaneously to the holding companies of banks and of savings and loans, to TPS and subordinated debt, to fixed and variable issues (Fitch 2002a), to public and private holding companies (Stifel 2001), and to securities from primary or secondary markets (Fitch 2002b:2).[11]

Pools have also lowered their minimum requirements for issue sizes to $2-3 million, (Sandler 2001, Stifel 2001, FTN 2000) and institutional sizes. The minimum institutional size permitted in a pool has been dictated, to a large extent, by the desire to secure a favorable rating from rating agencies. Investment banks continuously work with

[11] According to interviews with market participants, the overwhelming majority of issuers in recent pools were private (i.e. unlisted) bank holding companies.

rating agencies to lower the minimum permitted institutional size.[12] A recent report by Moody's states that smaller financial institutions should not be considered higher risks on the basis of size alone (Reid 2002). Accordingly, the minimum institutional size has recently fallen from $200 million to $100 million in assets (FTN 2000). At the same time, research studies are being performed to determine the effects on default risk of expanding pools to include institutions in the $50-100 million asset range.

Successive pooled TPS offerings have also improved the terms of call options, thereby increasing the flexibility available to issuers. Initially, most pooled offerings permitted the earliest exercise of call options only ten years after issuance. Exercise of the option at that date required payment of a premium that declined to par only twenty years after the initial issuance (FTN 2000, Sandler 2001). Also, the exercise of a call option typically required the issuer to call in the entire issue (Fitch 2002a:2). As pools developed, the exercise date was brought forward to five years after issuance and the period of declining premiums was shortened to ten years after issuance (Stifel 2000). Today, many pooled offerings include call options that may be exercised after just five years without payment of a premium (Fitch 2002a) and either in full or in part, calling in only as many securities as desired (FTN 2002a).

**b. Organizational structure and credit enhancements**

As more attractive terms for pooled offerings evolved, the markets also appear to have arrived at a standard organizational structure for pools. In theory, pools could use a variety of structures (Weinstock 2000b:3). During the late 1990s, a variety of structures were attempted, including using limited partnerships (Padget 1997:30) or having as few

[12] Some rating agency requirements for participation in a pool include above average performance under several criteria, a minimum five-year history for insured subsidiaries, and a minimum level of Tier 1 capital

as three institutions in a pool (Matthews 1999:2, SAL 1999). In practice, however, the business trust structure that individual BHCs use to issue TPS has become the most common format for pooling TPS across multiple issuers (Jordan 2000:4, Fitch 2002a:1).

In these structures, the business trust of each BHC makes a private placement of its entire TPS issue to a joint business trust set up by the pool. The business trust of the pool then issues its own securities, ranked in different grades from most senior to most junior, to outside investors. Thus, the pool is a collateralized debt obligation (CDO) since its debt obligations are collateralized by a diversified portfolio of TPS.

Importantly, participants in the pool are not responsible for one another's securities. Other than the initial issuance costs – underwriting fees, legal costs, etc. – and small yearly fees to cover the costs of an outside trustee, the dividend and principal payments emanating from the portfolio held by the pool are distributed to the outside investors.

Pools of TPS face two types of cash flow disturbances. Different issuers may at different times (1) defer interest payments or (2) default. Pools often include credit enhancements to insulate their most risk-averse investors from these disturbances. Credit enhancements that insulate investors that are less willing to bear these risks, to a large extent, are obtained by shifting risks and losses onto investors more willing to bear those risks. An increased protection from risk involves accepting lower returns, while an increased willingness to bear risks earns potentially higher returns.

Interviews with market participants support this depiction of a market divided into subsets of low and high risk-return investors. Most pools are currently only open to institutional investors – commercial paper buyers, banks, insurance companies, etc. – and

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of 10 percent of risk weighted assets after the TPS issuance (FTN 2002a:6).

to accredited investors. At one extreme, commercial paper buyers represent investors interested in risk-protected, low yielding instruments. At the other extreme, life insurance companies represent investors able to bear short-term risks in exchange for higher long-term returns. According to interviewees, the least risk-protected securities offered by pools have yields in the range of 20-30 percent, in part because there have been no deferrals or defaults to date.

Credit enhancements may be based on external or internal commitments of funds. An example of an external credit enhancement is an insurer providing a credit default guarantee (Jordan 2000:4, Kavanagh 2002:3, Bream 2002). In practice, insurance guarantees have, thus far, not become common features in TPS pooled offerings. Internal credit enhancements include subordination, excess spreads, reserve accounts, and overcollateralization (Kavanagh 2002:4, Fitch 2002a).

**i. Subordination**

One of the main credit enhancements available to risk-averse investors is subordination among the investors. Through subordination and other credit enhancements described below, a portfolio of roughly identical TPS securities may be transformed into different tranches of pool securities. These range from most senior debt with low risk and returns, to preferred stock-like with deferral options, to most junior equity with high risk and returns. Common names for securities issued by a pool include “senior notes” for the most senior securities, “mezzanine notes” for intermediate ones, and “income notes” for the most junior ones.

Subordination protects the most senior securities by providing a ranking of priorities for the use of principal and interest payments (cash flows) received by a pool.

In general, the most senior securities are paid with the most priority, but receive low contractually determined payments. Some recent issues are paid a variable rate of 3-month LIBOR plus 100 basis points, which is currently just under 3 percent (Fitch 2002a:1). Mezzanine securities are given less priority, but receive higher contractually determined payments. Some recent issues are paid a variable rate of 3-month LIBOR plus 225 basis points, which currently is just over 4 percent (Fitch 2002a:1). The most junior securities are paid only after all more senior securities have been paid the amounts due in full, but may receive potentially much higher yields (Fitch 2001:6) This yield is currently in the range of 20-30 percent.

**ii. Excess spread**

These yields are possible in conjunction with an additional credit enhancement, known as excess spread. Recent pooled offerings have included BHC TPS paying a variable rate of 3-month LIBOR plus 340 basis points (currently just under 5.5 percent) capped at 11.95 percent for five years until the call option may first be exercised. Since senior and mezzanine notes pay 100 and 225 basis points above LIBOR, the excess spread may be used to pay potentially higher yields to the junior securities. However, during deferrals and defaults, pool inflows including excess spreads are used first for senior securities and only afterwards for the junior securities, based on schedules detailed below. Table 4 below provides a simplified balance sheet for this sample pool.

**Table 4**
**Balance sheet for of a recent pool (2002)**

| Assets | Liabilities |
|---|---|
| TPS issued by BHCs<br>3-month LIBOR + 340 basis points<br>(currently under 5.5%) | Senior notes<br>3-month LIBOR + 100 basis points<br>(currently under 3%) |

| |
|---|
| Mezzanine notes<br>3-month LIBOR + 225 basis points<br>(currently over 4%) |
| Income notes<br>(currently 20-30%) |

If some BHCs defer their payments, senior securities followed by mezzanine ones receive their interest payments first (Fitch 2002a:3). The most junior notes are likely to bear all temporary losses. The pool is considered to be in default only in the extreme case of having to miss payments to senior notes. If inflows are insufficient to cover interest payments due to mezzanine securities, holders simply accrue interest on the amounts deferred and are to be repaid at the first available opportunity (Fitch 2002a:2). Lower ratios of senior-to-all-other and of mezzanine-to-junior securities reduce the likelihood of defaults on senior notes and of deferrals on mezzanine notes, but also decrease the potential size of yield on the most junior notes.

If BHCs exercise their call options and prepay the principal of the TPS, pool inflows are used first to pay interest due on senior securities and next to prepay principal to senior securities equal to the amount of TPS prepayments. Only after that may additional inflows be used to prepay mezzanine securities. Once all senior and mezzanine notes have been prepaid, additional pool inflows are used to make payments to the most junior notes (Fitch 2002a:4).

If BHCs default on their TPS, the pool, on behalf of its investors, has a claim on the assets of the BHC that would be junior to all BHC debt holders, but senior to all BHC preferred and common shareholders. Until any recoveries take place, pool inflows are used first to pay interest to senior securities and next to prepay an amount of senior securities equal to the amount of TPS defaults in a process that mimics what would have

happened if the TPS had been called in (prepaid). Only afterwards are additional inflows used to pay interest first on mezzanine securities, and next to the most junior notes. Once all senior notes have been prepaid, additional TPS defaults lead to the use of pool inflows first to pay interest on mezzanine securities and next to prepay an amount of mezzanine securities equal to the amount of TPS defaults. Only afterwards are additional inflows used to make payments to the most junior notes (Fitch 2001:7).

**iii. Reserve accounts and overcollateralization**

The two previous sections explain how the combined use of subordination and excess spreads greatly reduces the risk borne by the most senior securities. Additional credit enhancements include reserve accounts and overcollateralization. As their name implies, reserve accounts involve putting aside reserves to be used for specific purposes (Fitch 2002a:1). For instance, during periods of TPS deferrals and the associated shortfall in pool inflows, reserves may be used to avoid missing interest payments on senior securities (Fitch 2001:4).

Reserve accounts may be funded (1) out of the initial funds from investors, (2) as a percent of the excess spread, or (3) to the exclusion of any payments to the most junior securities until some dollar amount is held. Reserve accounts may be held as cash or invested in different securities. Some pools purchase principal strips due at the maturity of the pool to cover any amounts still due on senior or mezzanine notes (Fitch 2002a:2).[13]

The issuance by the pool of some deeply subordinated equity-like junior securities implies that an additional credit enhancement, known as overcollateralization, is also being used. Overcollateralization simply means that the amount of assets (in the form of

[13] In this case, a principal strip payable at maturity of the pool involves receiving a lump sum payment 30 years into the future, and no interest payments in the interim.

participating BHCs' TPS) held by the pool as collateral is larger than the amount of debt in senior and mezzanine notes issued by the pool (Fitch 2002a:1). Consider the case of a pool with $100 million in BHC TPS, $90 million in senior and mezzanine notes, and $10 million in income notes. For simplicity, assume that this pool approaches its maturity date and that no previous defaults or prepayments have taken place. In this case, overcollateralization means that up to $10 million worth of BHC TPS could default without imposing any losses on senior or mezzanine note holders. Larger degrees of overcollateralization (i.e. more income notes) would reduce the risk of defaulting on pool debt further.

**c. Rating of pools and regional diversification**

Prior to the development of pools, the use of ratings by TPS issuers followed the patterns already discussed. Larger issues dominated public offerings and carried investment-grade ratings from widely recognized rating agencies such as Standard and Poor's, Moody's, and Fitch (BMA 2002). Ratings were and are typically paid for by the issuers, insurers, guarantors, other obligors, and/or underwriters. Fees ranged from $1,000 to $1,500,000 depending on the complexity and size of the issue and the rating agency used (Fitch 2001:9, Reid 2002:2). Smaller issues were often unrated or received periodical and less widely-recognized ratings or coverage from the investment banks that underwrote their initial issuance and that often made secondary retail markets in them (HBI 2001, Stifel 2002).

Prior to the inception of pools, smaller financial institutions found it prohibitive to issue their own securities through public offerings. Thus, most of the financial institutions now participating in pools had no prior exposure to public debt markets and were unrated

(Fitch 2001:3). Rating agencies now produce ratings for each financial institution participating in a pool and for the different classes of securities issued by the pool.

The ratings issued for each pool participant consider a variety of measures, including capital position, asset quality, predictability and stability of earnings, and liquidity (Reid 2002:3, Fitch 2002a:2). These ratings attempt to evaluate the likelihood of default by an issuer. However, since the actual BHC securities are held by the pool, not by individual investors, the ratings often are simplified and include a smaller range of options. For instance, Fitch groups pool participants into only five subgroups (Fitch 2002a:2).

Rating agencies recognize that there are difficulties in predicting bank deferral and default rates up to 30 years into the future. Including data from more than 30 years ago raises the question of how relevant banking conditions before the 1970s are to predicting conditions after 2000 and of how banking might fare until 2030. Using data only from recent years comes close to assuming that banking crises never take place (Fitch 2001:3).

Because predicting long-term default rates for a complete pool is extremely difficult, rating agencies produce ratings only for the pools' senior and mezzanine notes. Ratings are largely based on "stress test" techniques that assume that the likelihood of a banking crisis over the next 30 years is similar to that over the last 30 years, thus assuming the occurrence of at least one crisis of the magnitude of the savings and loans crisis. Currently, senior and mezzanine notes are being assigned investment grade ratings, while income notes are left unrated since they are expected to absorb defaults and deferrals that cannot be accurately predicted (Fitch 2001:3, Fitch 2002a:1).

An additional consideration that has emerged both in research studies and in market practice is the value of geographic diversification. Research studies have found that bank defaults are affected more by regional than national economic conditions. Thus, pooling securities issued by banks from five different regions – Eastern, South-central, Midwest, Mountain, and Pacific – gives investors as much protection as would be obtained, for example, by diversifying across five industries (Fitch 2001:6, Salomon 2001a). During interviews, market participants reported that a sufficient degree of geographic diversification has become a key to the successful execution of a pooled offering. Thus, investment banks unable to develop regionally diversified pools or with a single issue above 5 percent of the total pool have found it very difficult to obtain favorable ratings and have been forced to merge their projected pools with pools being assembled by leading investment banks.

## C. TPS costs[14]

This section provides a brief outline and comparison of TPS interest, dividend and issuance costs across different issuance mechanisms and over time. Larger institutions with larger issues pay the lowest costs and benefit the most from stand-alone public offerings. However, over the last few years, smaller institutions have seen pools lower their interest, dividend and issuance costs. Appendix 1 presents data for these costs.

### 1. Interest and dividend costs

Explaining and predicting the patterns of interest rates across different issuers and instruments over time is difficult. Interest rates depend on a wide variety of variables,

[14] The costs described in this report aim to be informational and up-to-date, but should not be interpreted as an offer or a guarantee that these terms may not change in the future. Interested parties should contact investment banking firms independently.

some specific to individual issues and some dictated by macroeconomic conditions. Among the relevant individual variables are the perceived likelihood of default by the issuer, the maturity of the instrument, whether the instrument has a fixed or floating interest rate, and the level of sophistication of potential investors. Among the relevant macroeconomic variables are the supply of bonds by competing issuers, the demand for bonds by investors, monetary policy, expectations of future interest rates, inflation, economic growth, tax policies, and the rates of return available on other investments (stocks, real estate, etc.).

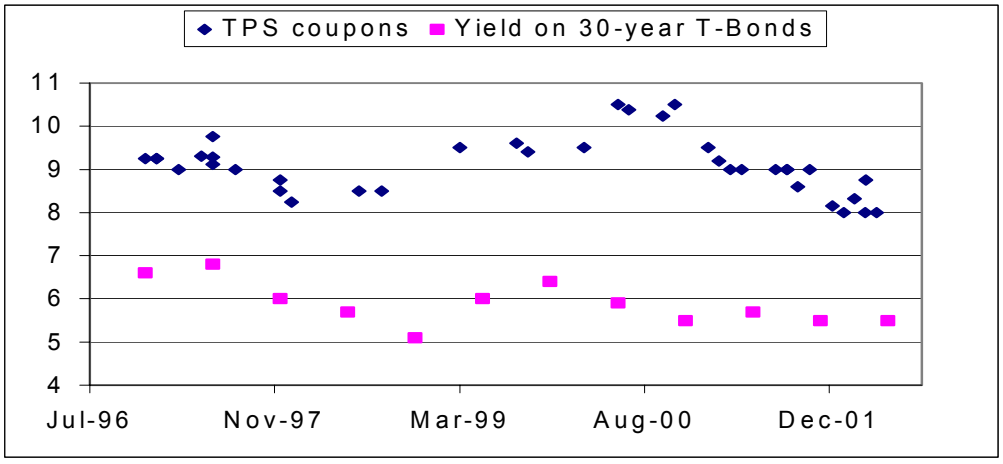
The interactions of all those variables produce varied interest rate patterns across issuers and instruments. Whereas the expansionary monetary policy often associated with recessions may be associated with lower interest rates, the complete pattern of interest rates may be far more complex. Expansionary monetary policy may cause interest rates to fall for short-term debt perceived to be low risk, such as federal debt and highly rated corporate debt. However, recessions are typically associated with increased corporate defaults that push interest rates higher for corporate borrowers perceived to be higher risk, such as smaller firms without a long borrowing record. Expansionary monetary policy could also lead to inflationary expectations that make falls in short-term interest rates co-exist with increases in long-term interest rates.

The complexities are compounded further when fixed vs. floating interest rates are considered. If offered the same rate for a fixed or floating instrument, issuers prefer a fixed (floating) rate if they expect interest rates to increase (decrease). On the other hand, if offered the same rate, investors prefer a floating (fixed) rate if they expect interest rates to increase (decrease). In practice, the differences in preferences between issuers and

investors are bridged through changes in the size of the premium that prevails at issuance between fixed and floating issues. For instance, if there is an expectation that interest rates are likely to increase, then the premium between fixed and floating interest rates is likely to widen.[15]

Despite these complexities, data for interest and dividend rates in the TPS market follow some discernible patterns. Figure 1 below presents the fixed coupon rates paid by stand-alone public offerings of TPS organized by one investment banking firm specializing in smaller issues (Stifel 2002:3).[16] Figure 1 compares TPS coupons to the yield paid on 30-year U.S. Treasury bonds at six-month intervals. The issues included in Figure 1 were at the smaller end of stand-alone issue and institutional sizes. The size of these issues ranged between $11 and $200 million and averaged $49 million. The size of the issuing institutions ranged between $530 million and $21 billion and averaged $3 billion in assets.

**Figure 1**
**TPS Coupons vs. Yield on 30-year T-Bonds**




[15] Borrowers using fixed rate instruments would be charged more of a premium for locking in a rate that is expected to become low. Borrowers using floating-rate instruments would receive an initially lower interest rate to compensate them for the perceived risk of incoming increases in interest rates.
[16] Coupons from other investment banks display similar patterns (Simkin 1997:533, HBI 2001:1, 2002).

Figure 1 reveals several interesting patterns in the market for smaller stand-alone TPS public offerings. TPS issues, like corporate bonds, appear to be priced at a premium (i.e., at higher yields) over government debt of similar maturity (i.e. 30 years). Increases and decreases in the yields on government debt, e.g. in 1997 and 1999, tend to be matched by increases and decreases in TPS coupons. However, this pattern is not particularly reliable. The changing premiums of TPS over government debt yields imply that other important forces are also at work in these markets. For instance, the premium increased from 250 basis points in 1997 to 450 basis points in 2000, only to fall back to 250 basis points in 2002. The dynamics of the stock market provide a plausible cause.[17] TPS first appeared during the heyday of the bull market in the late 1990s. As the stock market approached its peak, TPS issuers found that they had to compete with years of double-digit returns offered by equities.[18] To many investors, TPS coupons of 11 percent and a premium of 450 basis points over 30-year Treasury bonds seemed unimpressive. However, a sluggish stock market more recently has renewed retail and institutional interest in the stability and predictability of TPS payments (Weissman 2001:3, Fitch 2001:1). Stand-alone TPS issues from smaller financial institutions are now being priced with fixed coupons of 8 percent (and a premium of 250 basis points over 30-year Treasuries).

Larger issuers offer more liquid issues and benefit from having an established credit record. Thus, they are able to pay lower interest rates. As interest rates fall to 8 percent for smaller stand-alone issues, the largest issues may pay interest rates below 7

[17] Alternative or complementary explanations are also possible. For instance, the spike in this premium also coincides with the Federal Reserve campaign of interest rate increases of 2000.

percent. For instance, a recent issue by Bank of America, the third largest U.S. bank and one reputed for an emphasis on "plain-vanilla banking," was priced with a fixed coupon of 6.875 percent (Silverman 2002, Charles Schwab 2002). At the same time, smaller financial institutions, without an established record of borrowing, interested in placing fixed interest rate TPS with pooling mechanisms pay around 10 percent (FTN 2000, Sandler 2001, Fitch 2002a:3, 2002b:2). As investors become familiar with the protection provided by geographic diversification in pooled offerings, the spread between the fixed coupons paid by the largest banks and pools may narrow.

In the meantime, small financial institutions concerned about high fixed interest rates have the alternative of floating-rate issues.[19] Due to the long maturities of TPS, there is a sizable volume of outstanding stand-alone TPS issued with either fixed or floating rates at different stages in the credit and interest rates cycles[20] (Stifel 1997, Padgett 1999b). Currently, fixed rate issues dominate new issues of stand-alone retail TPS, while floating-rate issues dominate new issues in the institutional TPS market, of which pooled offerings are a part (Weissman 2001:3, and interviews with market participants).

A plausible explanation for this pattern is that, at this point in the credit and interest rate cycles, less sophisticated retail investors may be flocking to simpler

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[18] The S&P 500, the Dow Jones Industrial Average (DJIA 30) and the NASDAQ reached peaks of 1,527.46 on March 24th, 2000, 11,722.98 on January 14th, 2000 and 5,048.62 on March 10th, 2000, respectively (FT 2002).

[19] According to interviews with investment banking firms, currently most pool participants that issue variable rate TPS swap their obligation of 3-month LIBOR + 340 basis points for fixed interest payments of 7 percent to some counter-party independent of the pool. This means that, in practice, the fixed interest rate available to pool participants is 7 percent, albeit after paying swap fees.

[20] The credit cycle refers to increases and decreases in the volume of debt defaults. The interest rate cycle refers to increases and decreases in interest rates as largely determined by governmental monetary policy. Thus, the two cycles do not necessarily coincide or mirror each another.

instruments issued by well-known issuers such as fixed issues from Bank of America, and shunning more complex instruments such as pooled floating-rate issues. Conversely, more sophisticated and long-term oriented institutional investors may see an opportunity in floating issues. If regional diversification proves an adequate protection against future banking crises, or if banking crises fail to surface, institutional investors are likely to reap large rewards once the current low interest rate environment ends.

As with other terms for pooled offerings, interest rates on floating-rate issues have become slightly more favorable to issuers over the last three years. The spread over the yield on 3- or 6-month LIBOR has shrunk from 375 basis points to 360, 345, and 340 as pools compete (Salomon 2001c, Fitch 2002a:3, FTN 2002b). Issuers in pooled offerings are also still paying a premium over older, smaller, stand-alone offerings priced at 225 basis points over the yield on 3-month Treasury bills (Stifel 2002:3). As investors become familiarized with the protection provided by geographic diversification in pooled offerings, however, spreads between yields on stand-alone issues and on pools may narrow.

Finally, as is common in other floating-rate instruments, issuers are not necessarily required to match increases in marketwide interest rates beyond a contractually agreed cap, currently set between 11 and 12 percent at least until the earliest permitted call date (Salomon 2001c, FTN 2002b). Since pooled floating issues now pay about 5.5 percent (i.e. 3-month LIBOR plus 340 basis points), market-wide interest rates can increase by 4.5 percent before floating notes are more costly than fixed notes (i.e. until 10 percent). Even if then at 10-12 percent, floating issues will have had the advantage of perhaps years of lower interest costs. However, floating rates carry more

interest rate risk. If, after the cap expires, interest rates are higher than the cap and the issuer does not have the funds to retire its TPS, call options provide scant protection since any refinancing would take into account the higher interest rate environment.

**2. Issuance costs**

Beyond higher interest costs due to liquidity and credit risk, smaller issuers have traditionally faced prohibitively high issuance costs, which effectively locked them out of public debt markets. Issuance costs include a variety of items ranging from underwriting fees paid to investment banks to legal, accounting, marketing, and printing costs. Underwriting fees for TPS vary across issue size, typically ranging between 2 and 4 percent of the total amount of the offering (Luedke 1998:3, Benston 2001:8). Issuers smaller than $1 billion in assets are charged the highest percentage underwriting fees—about 4 percent (Padgett 1997, Weinstock 2000b:3, Baylake 2001). Four percent of an issue of $15 million generates only $600,000 in fees. By comparison, the average TPS issue of $188 million with a fee of two percent generates $3.76 million in fees.

Other issuance costs that are largely unrelated to the size of the issue – legal, accounting, marketing, and printing – make larger issues more economical and the smallest stand-alone issues impracticable. The promotional materials of pooled offerings provide cost comparisons of stand-alone and pooled issuance for smaller issues (FTN 2000:18, Sandler 2001). These stand-alone issuance costs beyond underwriting fees are reported at 1.674 percent for a $15 million issue and 4.948 percent for a $5 million issue. Taking into account the four percent underwriting fee, a stand-alone offering would have fairly costly non-interest costs of 5.674 percent for a $15 million issue and prohibitive costs of 8.948 percent for a $5 million issue.

By pooling TPS across many small issuers, investment banks overcome the problem of limited volumes and individual issuers avoid much duplication in legal, accounting, marketing, and printing tasks and costs. In practice, pooling has led to substantial reductions in issuance costs for small financial institutions. Underwriting fees have been lowered from four to three percent across different pooling mechanisms (FTN 2000, Sandler 2001, Salomon 2001b, c). Other issuance costs vary across pools and are still larger for the smallest issues, but issue sizes as small as $2-5 million that were once unthinkable are now practicable. According to promotional materials of different pools, for a $15 million issue, issuance costs may be reduced from 5.674 percent (4 percent in underwriting fees plus 1.674 percent in all other costs) for a stand-alone issue to 3.167 percent (3 plus 0.167) in a pool. For a $5 million issue, the reduction in issuance costs can be even larger, falling from 8.948 percent (4 plus 4.948) to 3.502 percent (3 plus 0.502) (Sandler 2001, FTN 2002b).

## III. Implementing capital instruments

The previous section discussed the experiences of smaller banks with TPS and pooling mechanisms. Their experiences serve as precedents and guides for the issuance of credit union capital instruments. Their experiences suggest that such capital instruments can be issued at economically viable interest and issuance costs.

There are, of course, differences between smaller banks and credit unions that need to be considered. Section III A explains how regulation and market practice have led smaller BHCs to use TPS instead of subordinated debt as their predominant form of alternative capital. Section III B contrasts how the experience of smaller banks with TPS cannot be directly applied to credit unions. After that, we describe some of the options

available to credit unions for implementing capital instruments. Section III C discusses structures for pooling mechanisms and Section III D discusses structures for capital instruments.

**A. TPS and subordinated debt in banking**

Because among smaller BHCs TPS are the predominant form of tax-advantaged capital securities, Section II concentrated on TPS rather than subordinated debt. TPS may seem more attractive because (1) they include the option to defer interest and dividend payments for up to five years without leading to a default event; and (2) they qualify as Tier 1 capital (as opposed to Tier 2 for subordinated debt). However, these advantages need not lead TPS to dominate over subordinated debt. Rather, one would expect both types of securities to be issued and for TPS to pay a higher coupon rate than subordinated debt, reflecting the premium investors require for the possibility of deferrals and how much issuers are willing to pay for the deferral option. In fact, Table 5 shows that the largest BHCs issue sizable amounts of both types of securities. They also pay higher rates on TPS than on subordinated debt (Fed 1999:45).

Table 5 shows the percent of BHCs that use TPS and subordinated debt and the dollar amounts of securities issued relative to their assets for BHCs of different sizes. Smaller institutions pay higher interest rates and issuance costs, issue these securities less often (columns 3 and 4), and have smaller issues (columns 5 and 6).[21] Subordinated debt tends to be issued only by the largest BHCs (columns 4 and 6), while smaller institutions

[21] In contrast to the information presented for TPS issued by smaller institutions in sections II C 1 and 2, during the late 1990s, issues of subordinated debt by the top 20-30 BHCs were extremely liquid, large, and had very low interest and issuance costs. Bid-ask spreads were as small as 2-20 basis points. Issue sizes were often in the $250-500 million range. Issuance costs were about 1.25 percent of issue sizes. Interest rates were typically 50-100 basis points above relevant Treasury yields (Board 2000).

issue sizable amounts of TPS (columns 3 and 5). Thus, for all but the largest BHCs, TPS are the dominant form of tax-advantaged capital securities.

**Table 5**
**Issuance levels of trust preferred securities (TPS) vs. subordinated debt (SD) for bank holding companies (BHCs) of different sizes**
**March 31st, 2002**

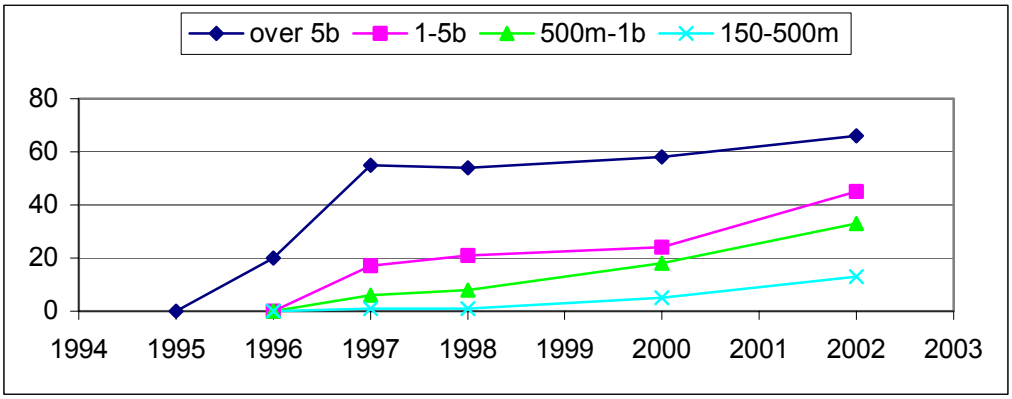
| Asset Size (1) | Number of BHCs (2) | BHCs using TPS (%) (3) | BHCs using SD (%) (4) | TPS as a % of BHC assets (5) | SD as a % of BHC assets (6) | TPS as a % of BHC assets (among BHCs using TPS) (7) |
|---|---|---|---|---|---|---|
| Over $5 billion | 99 | 66 | 68 | 0.76 | 1.38 | 1.15 |
| $1-5 billion | 194 | 45 | 11 | 0.66 | 0.10 | 1.47 |
| $500 million-1 billion | 286 | 33 | 7 | 0.61 | 0.10 | 1.85 |
| $150-500 million | 1,219 | 13 | 6 | 0.28 | 0.06 | 2.15 |

Source: FRBC 2002 www.chicagofed.org/downloads/rcri_database/bhc_files/Bhc0203.zip

Among issuing institutions, the relative importance of TPS increases for smaller institutions (column 7). Figure 2 compares the percent of BHCs that have issued TPS across different institution sizes (over $5 billion, between $1-5 billion, between $500 million and $1 billion, and between $150-500 million). Figure 3 compares TPS as a percent of assets across different institution sizes. These figures reveal several interesting patterns. Since the use of TPS as regulatory capital was first permitted in 1996, TPS use has been increasing across different institution sizes. The use of TPS increased most among the largest institutions. This is to be expected since larger financial institutions have ready access to financial markets, can have liquid stand-alone issues, and are

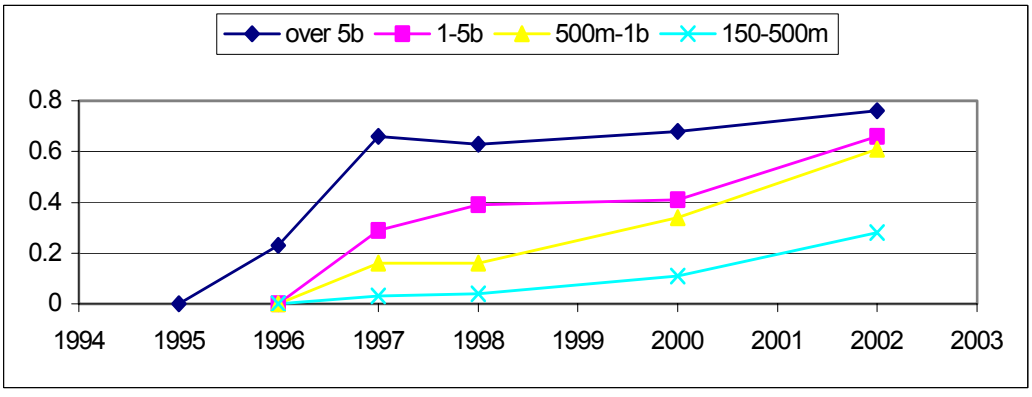
typically more financially sophisticated. In contrast, issuance of TPS among smaller institutions has increased more slowly, but seems to have room for additional growth.

**Figure 2**
**Percent of BHCs using TPS**




Note: Entries are as of December 31st for each year, except for 2002, which uses March 31st.
Source: FRBC 2002

**Figure 3**
**TPS as a percent of assets**




Note: Entries are as of December 31st for each year, except for 2002, which uses March 31st.
Source: FRBC 2002

The disparity in TPS and subordinated debt issuance may stem from differences in exposure to public debt markets across institution sizes. The choice of issuing TPS or

subordinated debt involves weighing the benefit of the deferral option and Tier 1 treatment against increased interest and dividends costs. If the spread in coupon rates between TPS and subordinated debt is small enough, issuers may choose to issue TPS and to forego subordinated debt altogether. If investors expected no deferrals, TPS would be issued with no yield premium over subordinated debt and issues of subordinated debt would be negligible. That is not the case for the largest institutions, which are in the largest, most liquid, and most closely followed markets. The near-absence of subordinated debt among smaller BHCs seems to imply that, in its infancy, the markets for TPS and subordinated debt of smaller BHCs has not yet distinguished risks in these securities and is to a large extent treating them as very similar instruments. Among pooling mechanisms that accept both securities, there is currently no provision for differential interest rates on TPS and subordinated debt. Thus, subordinated debt issues are nearly absent. Eventually, TPS deferrals and defaults may lead to spreads between TPS and subordinated debt yields.

**B. TPS for credit unions?**

The experience of smaller banks with TPS and subordinated debt raises the question of which instruments might be preferable for credit unions. As discussed in sections II A 1 and 5, TPS are advantageous for BHCs relative to common stock because, unlike common stock, (1) TPS payments are tax deductible, and (2) they do not dilute bank stockholder ownership. As discussed in section III A, TPS may be advantageous for BHCs relative to subordinated debt because (3) they count toward Tier 1 capital as opposed to Tier 2 and (4) they contain a deferral option. However, several of the advantages of TPS for banks are not advantages for credit unions.

In contrast to banks, credit unions are income tax-exempt, member-owned institutions that do not operate under a "tiered" system of regulatory capital. The TPS advantages to banks of (1) an income tax deduction, (2) bank stockholder control, and (3) better relative treatment within tiered capital regulations are not advantages of TPS for credit unions. Therefore, comparing TPS with subordinated debt for credit unions means assessing the advantage to credit unions of (4) including a deferral option. The option of delaying interest and dividend payments makes TPS more like equity capital and therefore more likely to be treated as regulatory capital.

There are several problems with credit unions using the name trust preferred securities (TPS). First, TPS issued by BHCs are preferred in that they are claims on profits and assets that are senior to those of other securities, such as common stock. Since credit unions do not typically have external common stock holders, it is unclear what these securities would be preferred over, making the term "preferred" unnecessarily confusing for credit unions. Second, since the trust structure was created to achieve income tax deductibility of payments, it is unlikely that credit unions would use the trust structure or the trust name. Even if TPS are not directly applicable to them, credit unions may still benefit from stand-alone or pooled issuance of subordinated debt and from other alternative capital instruments that include deferral options.

**C. Pooling for credit unions**

Since 2000 pooling mechanisms for BHC securities have provided access to capital markets to large numbers of institutions that had previously been considered too small to issue debt into public markets. These pools are extremely flexible in that they can include simultaneously both TPS and subordinated debt, or both BHC and thrift

issues, or both public and private holding companies' issues, or fixed or floating-rate issues. Interviews with investment banks reveal their interest in further expanding pooling mechanisms to include capital securities issued by credit unions.

Given their current flexibility, including securities issued by credit unions would not require any changes in pool structures. It may also be possible to develop pooling mechanisms that purchase only securities issued by credit unions. Table 2 showed that credit unions with assets in the $100-500 million range – the most likely participants in pools – have over $175 billion in assets. Since many pools have about $250 million in assets, if those credit unions chose to increase their level of capital securities to 1 percent of their assets over a number of years, there would be enough issues for seven "credit union-only" pools ($175 billion * 1 percent / $250 million = 7). However, if the volume of capital securities issued by credit unions did not justify the development of separate specialized pools, credit unions interested in participating in pools seem likely to be welcomed into "mixed" pools along with banks and thrifts.

**D. Instruments for credit unions**

Credit unions may not issue capital securities of any type in appreciable volume until their net worth regulations change. The 2002 Filene report *Subordinated Debt for Credit Unions* (SDCU) showed that, while banks are permitted to use a lengthening list of instruments to meet their regulatory capital requirements, credit unions can only use retained earnings to meet net worth requirements. That report also noted out that credit unions' using subordinated debt or other instruments to meet net worth requirements would require either changes in legislation or changes in NCUA regulations. Changes in

NCUA regulations could reform the net worth regulations that apply to so-called complex credit unions.

As the SDCU report argued, each alternative capital instrument is likely to have its advantages and disadvantages. Although different credit unions will prefer different alternatives, most will prefer some reform to none. Like many proponents of reform of credit union net worth regulations, this report does not endorse one specific instrument to the exclusion of others. Rather, the report present options for legislative and regulatory reforms.

Among those options are, at least, subordinated debt and some as-yet-unnamed form of capital shares. Subordinated debt of credit unions would likely be structured along the lines seen in banking. It would have long maturities, a coupon rate that is higher than that paid on regular credit union shares, and a junior standing in liquidation. Capital shares could be structured in a variety of ways, but could, for instance, mimic many characteristics of TPS. These capital shares would have a deferral option, no voting rights, and no direct influence over management. Like subordinated debt, they would also have long maturities, a high coupon rate, and a junior standing in liquidation. Missing a payment on subordinated debt constitutes a default, which may strip management of its control of the institution. In contrast, management's exercising its deferral option on capital shares does not constitute a default and therefore does not affect management's control of the credit union.

Finally, both subordinated debt and capital shares might be issued on an "open" basis to any investor in the capital markets or on a "closed" basis only to credit union members and approved institutions such as corporate credit unions or other credit unions.

The choice of having open or closed involves some clear trade-offs. By opening an issue, credit unions provide outside investors with rates of return that are higher than those paid to credit union members that hold regular credit union shares. At the same time, credit unions would be able to raise funds on faster notice and at lower rates.

The role of capital securities needs to be understood clearly when choosing whether to have open or closed issues. Holders of capital securities, like those of stock in any corporation, receive higher rates of return on average because they bear more risk. Risk may take the form of missed coupons or even of loss of invested capital. Opening an issue may provide higher returns from credit union assets to investors that are outside the credit union movement. At the same time, opening an issue shifts risks to those outside investors and protects credit union members who hold regular credit union shares.

## IV. Conclusion

In our 2002 Filene report *Subordinated Debt for Credit Unions*, we (1) presented the case for permitting subordinated debt or other capital instruments to count toward credit union net worth requirements and (2) argued for issuing these instruments through pooling mechanisms (Wilcox 2002). This report strengthens the case for reform of credit unions' net worth requirements by showing the successful precedent of smaller banks' pooling of capital instruments. That precedent suggests that about two-thirds of aggregate credit union assets are in credit unions that could reasonably expect to raise capital with either stand-alone or pooled issues of capital securities. The volumes and costs of those instruments indicate that similar instruments would be economically feasible for many credit unions.

## References

ABA (American Bankers Association). January 14th, 2002. *ABA Endorses Trust Preferred Securities Program with Community Bankers in Mind.* www.aba.com/Press+Room/CAB011402.htm

Baylake Corp. February 12th, 2001. *Prospectus: 1,400,000 Preferred Securities Baylake Capital Trust I*. Sturgeon Bay, Wisconsin.

Benston, George, Paul Irvine, Jim Rosenfeld, and Joseph F. Sinkey, Jr. October 2000. *Bank Capital Structure, Regulatory Capital, and Securities Innovations*. Federal Reserve Bank of Atlanta. Working Paper 2000-18.

BMA (Bond Market Association). 2002. *An Investor's Guide to Fixed-Rate Capital Securities*. New York. www.investinginbonds.com/info/igfrcap/innovative.htm

Board of Governors of the Federal Reserve System and the Secretary of the U.S. Department of the Treasury Joint Release. December 2000. *The Feasibility and Desirability of Mandatory Subordinated Debt.* Washington, D.C.

Bream, Rebecca and Jenny Wiggins. August 15th, 2002. *Financial Insurers Step Into the Spotlight*. Financial Times. London.

Charles Schwab. July 29th, 2002. *New Bond Issue Email Alert – Taxable Offering: Bank of America Capital Trust TRUPS (Trust Preferred Securities).* San Francisco.

CUNA (Credit Union National Association). 2002. *Credit Union Report 2001*. doig.cuna.org/download/curep_d01.pdf

The Economist. February 23rd, 2002. *Banks' Capital Adequacy: The Good Tailors of Basel*. London. P. 75.

FDIC (Federal Deposit Insurance Corporation). 2002. *FDIC Statistics on Banking*. Washington, D.C. www.fdic.gov/bank/statistical/statistics/0106/cbrc01.htm

Fed (Board of Governors of the Federal Reserve System). October 21st, 1996. Press Release.

Fed (Federal Reserve System Study Group on Subordinated Notes and Debentures). December 1999. *Using Subordinated Debt as an Instrument of Market Discipline*. Staff Study 172. Washington, D.C. www.federalreserve.gov/pubs/staffstudies/1990-99/172sum.htm

Fed (Board of Governors of the Federal Reserve System). January 1st, 2001. *Capital Adequacy Guidelines for Bank Holding Companies: Risk Based Measures*. Title 12, Chapter II of the Code of Federal Regulations (CFR) Part 225, Appendix A.

Washington, D.C.
www.federalreserve.gov/regulations/tittle12/sec225/225.200.pdf

Fed (Board of Governors of the Federal Reserve System). May 2002a. *Commercial Bank Examination Manual: Section 3020.1 Assessment of Capital Adequacy.* Washington, D.C. www.federalreserve.gov/boarddocs/supmanual

Fed (Board of Governors of the Federal Reserve System). June 2002b. *Instructions for Preparation of Reporting Form FR Y-9C Schedule HC-R*. Washington, D.C. www.federalreserve.gov/boarddocs/reportforms/forms/FR_Y-9C20020701_i.pdf

FITCH IBCA, Duff & Phelps. February 16th, 2001. *Bank Trust Preferred Securities Form New Asset Class for CDOs.* Structured Finance, Special Report. New York.

Fitch Ratings. February 4th, 2002a. *Preferred Term Securities IV, Ltd.* Structured Finance, Credit Products New Issue Report. New York.

Fitch Ratings. April 1st, 2002b. *Preferred Term Securities V, Ltd.* Structured Finance, Credit Products New Issue Report. New York.

FT (Financial Times). July 24th, 2002. *US Indices*. London. P. 31.

FTN (First Tennessee Financial/Keefe Bruyette & Woods). 2000. Promotional materials. Included in *Trust Preferred Securities: A Presentation for the Financial Institutions Practice Group*. 2001. Jenkens & Gilchrist, P.C. Dallas.

FTN (First Tennessee Financial/Keefe Bruyette & Woods). 2002a. *Pooled Preferred Trust Securities Program*. First Tennessee Financial Capital Markets.

FTN (First Tennessee Financial/Keefe Bruyette & Woods). 2002b. *Term Sheet for Issuers: FTN Financial/KBW Pooled Trust Preferred Deal VI (PreTS VI).* First Tennessee Financial Capital Markets.

FRBC (Federal Reserve Bank of Chicago). 2002. *BHC Database*.
www.chicagofed.org/economicresearchanddata/data/bhcdatabase/index.cfm#top
www.chicagofed.org/downloads/rcri_database/bhc_files/Bhc9612.zip
www.chicagofed.org/downloads/rcri_database/bhc_files/Bhc9712.zip
www.chicagofed.org/downloads/rcri_database/bhc_files/Bhc9812.zip
www.chicagofed.org/downloads/rcri_database/bhc_files/Bhc0012.zip
www.chicagofed.org/downloads/rcri_database/bhc_files/Bhc0203.zip

FRBKC (Federal Reserve Bank of Kansas City). June 2001. *Information on Trust Preferred Securities*.

Gardin, Lynn M. June 2001. *Increasing Capital with Trust Preferred Securities*. Fredlaw. www.fredlaw.com/articles/html/bank_0106_lmg.html

HBI (Howe Barnes Investments, Inc.). August 20th, 2001. *Trust Preferred Research: Semi-Annual Review*. Volume 3, Number 1. Chicago.

HBI (Howe Barnes Investments, Inc.). 2002. *Recent Financings*. www.howebarnes.com/firm/ct/pub/corpfin/Recent%20Financings.pdf

Howe, David. 2002. *Credit Unions and Capital Formation*. First Tennessee Financial Capital Markets.

Jordan, Paul. March 2000. *Pooled Trust Preferred Stock – A New Twist on an Older Product.* Emerging Issues Series. Supervision and Regulation Department. Federal Reserve Bank of Chicago.

Kavanagh, Barbara T. Spring 2002. *Securitization and Structured Finance: Legitimate Business Management Tools.* www.fma.org/FMAOnline/securitization.pdf

KBW (Keefe, Bruyette & Woods). 2002. www.kbw.com/cap_market.htm

Kline, Alan. February 11th, 1998. *Small Banks Jump Aboard REIT-Preferred Bandwagon.* American Banker. P. 7.

Luedke, Scott J. 1998. *Trust-Preferred Securities – Tapping into the Tax-Advantaged Capital Market.* Included in Trust Preferred Securities: A Presentation for the Financial Institutions Practice Group. 2001. Jenkens & Gilchrist, P.C. Dallas.

Mackintosh, James and Charles Pretzlick. July 9th, 2002. *Basle Accord Set to Change Banking Landscape*. Financial Times. London. P. 7.

Matthews, Gordon. September 8th, 1999. *Fund to Give Small Banks Access to Trust-Preferreds.* American Banker. P. 22.

NCUA (National Credit Union Administration). November 2001. *Rules and Regulations: Prompt Corrective Action.* Title 12, Chapter VII of the Code of Federal Regulations (CFR) Part 702. Washington, D.C. www.ncua.gov/ref/rules_and_regs/NCUA-1101.pdf

NASDAQ. 2002. *Trust Preferred*. www.nasdaq.com/structuredeq/sp_trust_pref.stm

OCC (Office of the Comptroller of the Currency). April 8th, 1997. *Interpretive Letter #777. April 1997. 12 U.S.C. 24(7)92*. Washington, D.C.

OCC (Office of the Comptroller of the Currency). March 10th, 2000. *Interpretive Letter #894. October 2000. 12 CFR 3*. Washington, D.C.

Padgett, Tania. February 26th, 1997. *Small players may get edge on Trust-Preferreds*.

American Banker. P. 30.

Padgett, Tania. November 30th, 1998. *Fleet Expected to Issue $250M of Trust-Preferred as Capital*. American Banker. P. 40.

Padgett, Tania. 1999a. *KeyCorp Is First Out of the Gate with 'Bullet' Capital Security*. American Banker.

Padgett, Tania. 1999b. *Riggs to Issue $200M of Trust-Preferred at Floating Interest Rate*. American Banker.

Reid, Alan G. February 2002. *The Credit Rating Process and Analytical Methodology for Small US Banks: Rating Methodology*. Moody's Investors Service: Global Credit Research. New York.

Ryan, Beck & Co. 1999. *CNB Financial Corp*. Advertisement in American Banker.

Salomon Smith Barney. March 23rd, 2000. *Offering Circular: Regional Diversified Funding*

Salomon Smith Barney. May 15th, 2001a. *Regional Bank Diversification*.

Salomon Smith Barney. June 2001b. *MM Community Funding – Floating Rate TRUPS*

Salomon Smith Barney. June 2001c. *MM Community Funding II– Floating Rate TRUPS*

SAL Trust Preferred Fund I. July 2nd, 1999. N2 filing with the SEC. www.sec.gov/Archives/edgar/data/1089500/0000928385-99-002176-index.html

Sandler O'Neill & Partners, L.P. 2001. MMCapS[SM] Promotional materials.

Silverman, Gary. July 16th, 2002. *US Banks See No Turn in the Credit Cycle*. Financial Times. London.

Simkin, Morris N. June 1997. *Trust Preferred Securities: A Banker's Primer*. The Banking Law Journal. pp. 531-547.

Sinkey Jr., Joseph F. December 21st, 1998. *Issuing Trust-Preferred Too Good a Game to Sit Out*. American Banker. P. 18

Stifel, Nicolaus & Company, Incorporated. 1997. *Trust Authorized Preferred Securities*. St. Louis, Missouri.

Stifel, Nicolaus & Company, Incorporated. February 12th, 1998. *#1 Underwriter of Trust Preferred Securities for Community Banks*. Advertisement in American Banker. P. 32.

Stifel, Nicolaus & Company, Incorporated. 2000. *Regional Diversified Funding II: Pooled Trust preferred Program*. St. Louis, Missouri.

Stifel, Nicolaus & Company, Incorporated. June 11th, 2002. *Selected Trust Preferred Issues (Weekly Pricing)*. St. Louis, Missouri. www.stifel.com/stifelresearchdocs/STP_061102.pdf

Weinstock, Peter G. 2000a. *Trust Preferred and Other Paths to Profitability.* Included in Trust Preferred Securities: A Presentation for the Financial Institutions Practice Group. 2001. Jenkens & Gilchrist, P.C. Dallas.

Weinstock, Peter G. 2000b. *Trust Preferred Securities – A Primer on the State of the Market.* Included in Trust Preferred Securities: A Presentation for the Financial Institutions Practice Group. 2001. Jenkens & Gilchrist, P.C. Dallas.

Weissman, Kip A. 2001. *Sometimes Equity, Sometimes Debt, Always Capital: Trust Preferred Stock, a New Financing Vehicle for Community Financial Institutions*.

Wilcox, James A. 2002. *Subordinated Debt for Credit Unions*. Filene Research Institute. Madison, Wisconsin.

Yahoo! Finance PR Newswire. October 2nd, 2000. *Bay View Confirms Anticipated Action by Federal Reserve*. http://biz.yahoo.com/prnews/001002/ca_bay_vie.html

Yahoo! Finance PR Newswire. June 6th, 2001. *City Holding Company Defers Dividend on Trust Preferred Stock.* http://biz.yahoo.com/prnews/010606/phw017.html

## Appendix 1: Recent TPS interest, dividend and issuance costs

<table>
<tr><td colspan="2"></td><td colspan="3">Individual issues</td><td colspan="2">Pooled issues</td></tr>
<tr><td colspan="2">Issue size ($ million)</td><td>> 150</td><td>15</td><td>5</td><td>15</td><td>5</td></tr>
<tr><td rowspan="2">Interest Rate (%)</td><td>Fixed</td><td>< 7</td><td colspan="2">8-9</td><td colspan="2">7 via a swap</td></tr>
<tr><td>Floating</td><td colspan="3">n/a</td><td colspan="2">3-month LIBOR + 340 b. p. (i.e. 5.5)</td></tr>
<tr><td colspan="2">Underwriting fees (% of issue size)</td><td rowspan="2">2</td><td colspan="2">4</td><td colspan="2">3</td></tr>
<tr><td colspan="2">Other issuance costs (% of issue size)</td><td>1.7</td><td>5</td><td>0.2</td><td>0.5</td></tr>
</table>

Note: These costs were collected from the promotional materials of various investment banks and through interviews with market participants. These costs are broadly representative of transactions that took place during 2000-2002. For a detailed description of the sources employed, see section II C.

## About the Author

***James A. Wilcox*** is the Kruttschnitt Professor of Financial Institutions at the Haas School of Business at the University of California, Berkeley. From 1999-2001 he served as Chief Economist at the Office of the Comptroller of the Currency. He has also served as senior economist for the President's Council of Economic Advisors, as an economist for the Board of Governors of the Federal Reserve System, and as Chair of the Finance Group at the Haas School. He received his Ph.D. in economics from Northwestern University.

At the Haas School, Professor Wilcox teaches courses on risk management at financial institutions, on financial markets and institutions, and on business conditions analysis. He has written widely on bank lending, credit markets, real estate markets, monetary policy, and business conditions. His research has addressed reform of deposit insurance, the causes and consequences of the Gramm-Leach-Bliley Act, the effects on bank executives of mergers, the ability of banks to reduce costs following mergers, the differences in bank supervision and regulation around the world, the effects of bank loan losses and capital pressure on lending and small businesses, the demographic effects on residential real estate prices, and the efficiencies and credit effects of electronic payments. His articles have been published in leading academic journals, including the *American Economic Review; The Journal of Finance and Accounting; The Journal of Economic Perspectives; The Journal of Money, Credit, and Banking; The Journal of Banking and Finance; The Journal of Housing Economics; and The Review of Economics and Statistics.*