Five commenters suggested that certain language be clarified, and several of these suggestions have been incorporated into the survey document. For example, the survey now more clearly indicates that checks converted to ACH transactions should be excluded, clarifies which types of losses should be included as check losses, and explains the difference between electronic check presentment and paper check presentment. Additionally, the survey document more clearly indicates that a respondent should check an estimate box if an answer is an estimate, or enter ''DK'' (don't know) if the respondent has volume of the type being measured, but is unable to report at least an estimate.

Board of Governors of the Federal Reserve System, October 11, 2005.

Jennifer J. Johnson,

Secretary of the Board.

[FR Doc. 05–20663 Filed 10–14–05; 8:45 am]

BILLING CODE 6210–01–P

FEDERAL RESERVE SYSTEM

Formations of, Acquisitions by, and Mergers of Bank Holding Companies

The companies listed in this notice have applied to the Board for approval, pursuant to the Bank Holding Company Act of 1956 (12 U.S.C. 1841 *et seq.*) (BHC Act), Regulation Y (12 CFR Part 225), and all other applicable statutes and regulations to become a bank holding company and/or to acquire the assets or the ownership of, control of, or the power to vote shares of a bank or bank holding company and all of the banks and nonbanking companies owned by the bank holding company, including the companies listed below.

The applications listed below, as well as other related filings required by the Board, are available for immediate inspection at the Federal Reserve Bank indicated. The application also will be available for inspection at the offices of the Board of Governors. Interested persons may express their views in writing on the standards enumerated in the BHC Act (12 U.S.C. 1842(c)). If the proposal also involves the acquisition of a nonbanking company, the review also includes whether the acquisition of the nonbanking company complies with the standards in section 4 of the BHC Act (12 U.S.C. 1843). Unless otherwise noted, nonbanking activities will be conducted throughout the United States. Additional information on all bank holding companies may be obtained from the National Information Center website at *www.ffiec.gov/nic/*.

Unless otherwise noted, comments regarding each of these applications must be received at the Reserve Bank indicated or the offices of the Board of Governors not later than November 10, 2005.

A. Federal Reserve Bank of Atlanta (Andre Anderson, Vice President) 1000 Peachtree Street, N.E., Atlanta, Georgia 30303:

1. Flint Community Bancshares, Inc., Albany, Georgia; to become a bank holding company by acquiring 100 percent of the voting shares of Flint Community Bank, Albany, Georgia (in organization).

2. SBT Bancorp, Inc., Clarkesville, Georgia; to become a bank holding company by acquiring 100 percent of the voting shares of Southern Bank & Trust, Clarkesville, Georgia (in organization).

B. Federal Reserve Bank of Minneapolis (Jacqueline G. King, Community Affairs Officer) 90 Hennepin Avenue, Minneapolis, Minnesota 55480-0291:

1. Citizens Development Company, Billings, Montana; to merge with Midwest Bancorporation, Billings, Montana, and thereby indirectly acquire Clarke County State Bank, Osceola, Iowa; Farmers and Merchants State Bank, Iroquois, South Dakota; and Farmers State Bank, Stickney, South Dakota.

2. Citizens Development Company, Billings, Montana; to merge with United Bancorporation, Billings, Montana, and thereby indirectly acquire Lincoln County Bank, Merrill, Wisconsin; United Bank, Osseo, Wisconsin; Bank of Poynette, Poynette, Wisconsin; and Cambridge State Bank, Cambridge, Wisconsin.

C. Federal Reserve Bank of Kansas City (Donna J. Ward, Assistant Vice President) 925 Grand Avenue, Kansas City, Missouri 64198-0001:

1. Nebraska Bankshares, Inc., Farnam, Nebraska; to acquire up to 100 percent of the voting shares of First State Bank (also known as Holbrook Exchange Company, Holbrook, Nebraska (in organization).

Board of Governors of the Federal Reserve System, October 12, 2005.

Jennifer J. Johnson,

Secretary of the Board.

[FR Doc. E5–5691 Filed 10–14–05; 8:45 am]

BILLING CODE 6210–01–S

FEDERAL RESERVE SYSTEM

[Docket No. OP–1229]

Federal Reserve Bank Services Private Sector Adjustment Factor

AGENCY: Board of Governors of the Federal Reserve System.

ACTION: Notice.

SUMMARY: The Board has approved modifications to the method for calculating the private sector adjustment factor, which imputes the costs that would have been incurred and profits that would have been earned, including the return on equity capital, had the Federal Reserve Banks' priced services been provided by a private sector business. When setting prices in 2006, the Board will use only the capital asset pricing model to determine the target return on equity capital. Rather than continuing the long-standing process of identifying a peer group to calibrate the target return on equity capital, the return on equity capital will be based on the rate of return for the equity market as a whole. The Board's method for setting the level of equity capital imputed to priced services would continue to be based on the Federal Deposit Insurance Corporation guidelines for a well-capitalized depository institution for insurance premium purposes. In addition, the Board will continue using the financial data from the top fifty bank holding companies by deposit balance to determine the priced-services effective tax rate each year.

DATES: This revised method will be used to calculate the targeted return on equity capital beginning with the 2006 price setting.

FOR FURTHER INFORMATION CONTACT: Gregory L. Evans, Assistant Director (202/452–3945), Brenda L. Richards, Manager (202/452–2753), or Jonathan Mueller, Financial Analyst (202/530–6291); Division of Reserve Bank Operations and Payment Systems. Telecommunications Device for the Deaf (TDD) users may contact 202/263–4869.

SUPPLEMENTARY INFORMATION:

I. Background

The Monetary Control Act (MCA) requires that the Board establish fees for ''priced services'' provided to depository institutions to recover, over the long run, all direct and indirect costs actually incurred as well as imputed costs that would have been incurred, including financing costs, taxes, and certain other expenses, and the return on equity (profit) that would have been earned, if a private business

firm provided the services. The imputed costs and imputed profit are collectively referred to as the private sector adjustment factor (PSAF).

The method for calculating the PSAF includes determining the book value of Federal Reserve assets and liabilities to be used in providing priced services during the coming year. The Board's method involves developing an estimated Federal Reserve priced-services pro forma balance sheet using actual priced-services assets and liabilities. The remaining elements on the balance sheet, such as equity, are imputed as if these services were provided by a private-sector business. Equity is imputed at a level necessary to satisfy the Federal Deposit Insurance Corporation (FDIC) requirement for a well-capitalized depository institution.[1]

A target return on equity capital (ROE) is estimated and applied to the dollar amount of equity capital on the pro forma balance sheet to determine the priced-services cost of equity. For the past few years, the ROE has been calculated by averaging the results of three analytical models: The comparable accounting earnings (CAE) model, the discounted cash flow (DCF) model, and the capital asset pricing model (CAPM). The top fifty bank holding companies (BHCs) based on deposit balances serve as the peer group for Federal Reserve priced services and the peer group's financial data are used to estimate the target ROE.

The Board uses historical BHC accounting information to compute a target ROE in the CAE model. The ROE for an individual BHC in the peer group is calculated as the ratio of the firm's net income to its book value of equity and is averaged with the ROEs of the peer group BHCs to determine the total peer group ROE. The CAE ROE is calculated as the average of the peer group ROEs over the last five years. The DCF model takes a forward-looking approach to estimating ROE. It assumes that a firm's stock price is equal to the discounted present value of all expected future dividends. The CAPM captures the risk-return relationship that rational investors require in efficient markets. The underlying theory of the model assumes that investors demand a premium for bearing risk; that is, the higher the risk of the entity, the higher its expected return must be to attract investors.

The PSAF also includes imputed income taxes by using a targeted pretax ROE.[2] The PSAF tax rate is the median of the rates paid by the fifty BHCs in the peer group over the past five years. Finally, the PSAF includes an estimated share of the Board of Governors' expenses incurred to oversee Reserve Bank priced services, imputed sales tax, and an imputed assessment for FDIC insurance.

The methodology underlying the PSAF is reviewed periodically to ensure that it is appropriate and relevant in light of Reserve Bank priced-services activities, accounting standards, finance theory, and regulatory and business practices.[3] In addition, the Board seeks to balance the cost, complexity, and accuracy of the PSAF methodology in implementing theoretically sound approaches.

In May, the Board requested comments on potential modifications to the following elements of the PSAF ROE methodology (70 FR 29512, May 23, 2005).[4]

- Imputed ROE models: The Board requested comment on calculating a target ROE based only on the CAPM, rather than the current three-model method.
- CAPM parameters: The Board requested comment on the appropriate method for establishing the risk-free rate and the measure of market risk, commonly referred to as the beta, including the peer group, estimation period, weighting approach, and the assumption that the priced-services beta is equal to 1.0.
- Income tax rate calculation: Although the Board did not specifically request comment on the tax rate calculation, if the Board were to assume a beta equal to 1.0 for priced services and a peer group is no longer needed, the Board would need to identify a method to determine a comparable tax rate for the PSAF.
- Broader issues and future industry and regulatory changes: The Board requested comment on whether the ROE target should be set every year or over a multi-year period and whether the ROE methodology should be adjusted to take business changes into consideration. Given that the competition to the Reserve Banks' priced services will increasingly be market utilities rather than correspondent banks as the check service becomes more electronic, the Board requested comment on the implications that this trend would have on determining the priced-services peer group. The Board also requested comment on the potential effect on the PSAF of proposals developed by the Basel Committee on Banking Supervision (Basel II) to improve capital adequacy regulations.

II. Summary and Analysis of Comments

The Board received ten responses to its request for comment. Six responses were from banks or BHCs, and one response each was received from a savings and loan, a payments processing company, a banking association, and a Reserve Bank. Overall, the comments were mixed regarding the theory, use, and components of the current and considered PSAF ROE methodology.

A. Imputed Return on Equity Models

The target ROE for Reserve Bank priced-services activities is established at the organization level rather than by developing an ROE for each service or Reserve Bank. Conceptually, the ROE is developed with a shareholder's perspective in mind and considers whether shareholders are adequately compensated in the form of average equity returns given the overall risk of the business activities. The current three-economic-model approach incorporates different inputs and melds different outlooks when determining a target ROE. The source of data for the CAE model is peer-group historical accounting information and the peer group CAE ROE is averaged over five years to avoid any large fluctuations. The DCF approach uses BHC peer group stock prices, along with analyst projections of future dividends and long-term dividend growth rates, to estimate ROE. The CAPM uses peer group and market equity returns to estimate a risk premium, which is added to the return on a risk-free asset to estimate ROE.

Because the CAPM is widely accepted and used more in practice than the CAE and DCF methods, the Board requested comment on replacing the current method of averaging the results of three

[1] Equity is imputed based on the FDIC definition of a ''well-capitalized'' institution for insurance premium purposes. The FDIC requirements for a well-capitalized depository institution are (1) a ratio of total capital to risk-weighted assets of 10 percent or greater; and (2) a ratio of Tier 1 capital to risk-weighted assets of 6 percent or greater; and (3) a leverage ratio of Tier 1 capital to total assets of 5 percent or greater. The Federal Reserve priced-services balance sheet total capital has no components of Tier 1 or total capital other than equity; therefore, requirements 1 and 2 are essentially the same measurement.

[2] Rather than estimate a separate tax expense, the Board targets a pretax ROE that would provide sufficient income to fulfill its income tax obligations. To the extent that the actual performance results are greater or less than the targeted ROE, income taxes are adjusted accordingly.

[3] The previous review of the PSAF was completed in 2001 and changes were implemented for the 2002 PSAF (66 FR 52617, October 16, 2001).

[4] During the development of this proposal, the Federal Reserve worked with a consulting firm specializing in capital allocation and risk management and four finance professors from U.S. academic institutions to obtain information about current private-sector practices.

models with a simple CAPM-only method.[5] Specifically, the CAE model has continued to wane in use and the effectiveness of the DCF model has been questioned based on research findings that analysts' dividend projections can be biased.

Generally, commenters supported using the CAPM-only method to calculate a target ROE because it is simple and theoretically the best model. Some suggested keeping the current three-model approach or using a modified version of the current approach. None of the comments supported the DCF model; however, three commenters noted that the CAE model, or other accounting-based information, could be a useful way to validate the results and assumptions of CAPM. One commenter opposed using only the CAPM because it would create volatility in Federal Reserve pricing.

Although ROE targets taken directly from results produced by a CAPM-only approach are more volatile than those generated under the current methodology primarily due to the CAPM's sensitivity to the short-term risk-free rate, the Board believes that the degree of volatility is representative of ROEs that would be expected of a private-sector service provider. In addition, the imputed net income on clearing balances (NICB) for priced services is also sensitive to short-term interest rate changes because the spread between the earnings rate and the cost of clearing balances increases as short-term rates increase.[6] In a changing interest rate environment these two factors move in directions that offset each other. Both the target ROE and NICB would increase and decrease together as interest rates rise and fall, respectively. Thus, the effect on net income and service prices of these two factors combined becomes more stable than under the current ROE calculation methodology.[7]

Several commenters offered alternative models or adjustments that could be considered when calculating a target ROE. Three commenters suggested that the Board could use an Arbitrage Pricing Theory (APT) model, other multi-factor models, or adjust the CAPM beta for differences in leverage between the peer group and Federal Reserve priced services. Although not discussed in the request for comment, the Board considered whether APT and other multi-factors models, along with making adjustments for leverage, to estimate a target ROE would lead to a materially different ROE over the ''simple'' CAPM ROE.[8] In multi-factor models and models adjusting for differences in leverage, subjective judgments and assumptions must be made about the factors to include and the future behavior of the factors. Incorporating the additional factors and making subjective and complex adjustments did not produce materially different ROEs from those resulting from using a single factor CAPM.

Overall, the Board believes that CAPM is a methodology widely used in financial industry practice. The Board recognizes that many firms use financial models, such as CAPM, as a starting point when estimating a target ROE and make subjective adjustments based on current or expected trends affecting the firm's profitability. Because the Board strives to have a PSAF methodology that is consistent with private-sector practice and that can be replicated by the public, the CAPM-only approach is reasonable because it is a well-known, generally accepted, and theoretically sound model that is simple and transparent compared to other approaches. The Board, therefore, will use the CAPM-only approach to estimate a target ROE.

B. CAPM Parameters

In its request for comment, the Board considered whether the current CAPM methodology should be modified to reflect better the goals of the MCA, and current professional and academic practice. CAPM's basic principle is that the required rate of return on a firm's equity is equal to the return on a risk-free asset plus a risk premium. The risk premium is a measurement of the expected excess return on a market portfolio of equities over a risk-free rate (the expected market risk premium) and the correlation of the firm's returns to the market returns (beta). These principles are captured in the following formula:

[5] R.F. Bruner, K.M. Eades, R.S. Harris, and R.C. Higgins, 1998 ''Best Practices in Estimating Cost of Capital: Survey and Synthesis,'' Financial Practice and Education, and J.R. Graham, and C.R. Harvey, 2001 ''The Theory and Practice of Corporate Finance: Evidence from the Field,'' Journal of Financial Economics, find that CAPM is the dominant model for estimating cost of equity. In addition, most textbook treatments of equity cost of capital calculations are based on the CAPM model (for example see *http://www.Damodaran.com*).

[6] The earnings credit rate is 80 percent of the base rate, which is the coupon equivalent yield of the 13-week rolling average of the three-month Treasury bill. The investment rate is the base rate plus a constant spread, which is determined by a portfolio that is similar to one held by a BHC.

[7] The NICB calculation assumes that Reserve Banks invest clearing balances net of imputed reserve requirements and balances used to finance priced-services assets. Based on the net clearing balance level, Reserve Banks impute a constant spread, determined by the return on a portfolio of investments, over the three-month Treasury bill rate.

[8] APT incorporates various capital market and macro-economic data to estimate a target ROE. Instead of one measure of market risk, APT includes many. Each beta measures the sensitivity of a firm's returns to a separate underlying factor, such as short-term real interest rates, inflation, default risk, and industrial production.

Equation

$$ROE_{\text{Fed priced services}} = Rf + \overbrace{[Beta_{\text{Fed priced services}} * \underbrace{E(Rm - Rf)}_{\text{Expected Market Risk Premium}}]}^{\text{Risk Premium}}$$

Rf	= risk-free rate of return
$Beta_{\text{Fed priced services}}$	= priced-services beta
Rm	= return of the overall market
$E(Rm - Rf)$	= expected market risk premium
$Beta_{\text{Fed priced services}} * E(Rm - Rf)$	= risk premium

CAPM requires judgment in determining

- The risk-free interest rate or the rate of return on an investment with no or low risk, typically measured using a Treasury security rate.
- The method, data, and period used for estimating the beta. The beta measures the market risk of a particular company relative to the risk of the overall market.
- The market risk premium, which estimates the additional return investors require to forgo the safety of investing in no or low-risk assets to bear the higher risk of investing in a specific asset.

(1) Risk-Free Rate (Investment Horizon)

Consistent with the theory of CAPM, the Board currently uses the rate on a short-term Treasury security as the risk-free interest rate.[9] In its request for comment, the Board noted that there are competing views about whether a short-term or long-term risk-free rate is more appropriate in the CAPM. One point of view is that a short-term risk-free rate is appropriate because it is consistent with the time horizon of investors in liquid securities markets. This approach also is consistent with the yearly price-setting for Federal Reserve services. Another point of view advocates using a long-term risk-free rate, such as the ten-year Treasury bond rate, because it more closely matches the duration of physical investments, the duration of stock market indexes used to estimate a beta, and the investment horizon of a long-term investor. It may also be considered to be more in line with the MCA's requirement for the Federal Reserve to recover all costs of providing its services over the long run. In this approach, a target ROE should represent the return that the firm expects to achieve on average over the fluctuations of the business cycle. When considering what risk-free rate term to use, generally the time horizon of the investor is matched with term of the risk-free security. If investment in the Reserve Banks' activities is assumed to be long term, this approach would support using the yield on a longer-term Treasury instrument as the risk-free rate in the CAPM to calculate the Reserve Banks' priced-services target ROE.

The Board specifically requested comment on whether a short-term or longer-term risk-free rate is more appropriate for estimating a target ROE, and if using a long-term risk-free rate less a term premium adjustment to reflect an expected average short-term risk-free rate over a ten-year horizon is reasonable.

Comments received were varied in regards to the term of the risk-free rate to use in the CAPM. One commenter supported the current practice to use a short-term rate and match the term of the risk-free rate with the frequency of the Federal Reserve pricing. One commenter suggested using a five-year Treasury rate. Three commenters supported using a long-term risk-free rate to better meet the long-term cost recovery objectives of the MCA, to reduce year-to-year volatility in the ROE, and to adopt a longer-term planning horizon. Two of these commenters supported the ten-year Treasury note rate, while the other thought using a ten-year Treasury note rate with a term premium adjustment was reasonable.

In considering the arguments for both the short- and long-term rates, the Board does not believe that one method produces conceptually superior results over the other; over time they should produce the same results, after adjusting for term premiums. In practice, a short-term rate will reduce the volatility of the combined target ROE and NICB estimates, minimizing the effect that changes in interest rates will have on prices each year. Given that private-sector businesses use both short- and long-term risk free rates and to address the CAPM volatility and the potential effect on prices, the Board will use a short-term rate in the CAPM that is consistent with the rate used to calculate NICB. This approach should decrease the sensitivity to interest rate changes of the combined ROE and NICB that are factored into the Federal Reserve's pricing.[10]

(2) Market Risk Premium

Currently, the Board uses the monthly average difference between the market return and the return of a one-month Treasury bill since 1927 to estimate the expected market risk premium (MRP). Although the Board did not specifically request comment on an appropriate MRP, some commenters suggested that the Reserve Banks' current methodology does not properly reflect more recent equity and bond market conditions and, therefore, may be overstated. One commenter encouraged the Board to investigate using an MRP of 3–6 percent because it was the commenter's sense that support for an MRP around 7 percent may be dwindling. Another commenter suggested that the Board consider estimating the MRP using a shorter time period that corresponds to the risk-free rate horizon.

[9] For the 2005 PSAF, the Board used the one-year Treasury bill rate as the risk-free rate.

[10] Initially, the risk-free rate will be based on the NICB investment rate. The NICB investment rate is based on the coupon equivalent yield of the 13-week rolling average of the three-month Treasury bill in the secondary market, from which a constant spread is applied.

In researching this issue, the Board found that practitioners and academics use different approaches to estimate an MRP that they argue produce a more realistic estimate than an MRP based on the historical average since 1927.[11] Different estimates of the MRP using historical data are attributable to choices made about averaging techniques, the term of the Treasury security that serves as the basis for the risk-free rate, and the historical time period. Choosing among the options is essentially a matter of weighing conceptual differences.

In general, there are two broad approaches to estimate the MRP. One is based on what equity investors have earned in the past, while the other is based on projections implied by current stock prices relative to earnings, cash flows, and expected future growth. In order to make the PSAF ROE calculation publicly replicable, the Board currently uses historical returns to estimate an expected MRP. When using historical data to estimate the MRP, it is important that the time span is neither so short that it is heavily influenced by atypical events nor so long that it captures market conditions that have little or no relationship to the current market and economy. In analyzing historical monthly MRP data since 1927, there are outlying observations in the years up to 1940 when compared with other observations in the following decades. These data suggest that there can be fundamental shifts in investor expectations over varying historical periods considering that different generations will have different risk tolerances based on changing economic and market conditions. The MRP would be more appropriately influenced by evolving attitudes reflected in realized MRPs if it is calculated using a rolling average of historical returns rather than the current practice of using historical returns since 1927. A rolling average would better capture changes in expectations because less relevant historical data would drop out and more relevant and recent data would be incorporated in the calculation.

The Board will adopt a rolling forty-year time horizon to estimate MRP.[12] The Board believes that forty years is sufficiently long to smooth cyclical fluctuations in realized returns, but short enough to reflect trends in required returns.

(3) Beta

Conceptually, the Reserve Banks' priced services should target the ROE that the market would require of a private firm with the same risk profile. The beta should be based on a comparable peer group of companies providing these same services and having the same risk profiles as priced-services activities. When the peer group is identified, the most relevant and appropriate methods to use for the beta can be determined and applied to estimate the market risk of priced services.

Peer Group

When it requested comment, the Board acknowledged that BHCs are not a perfect proxy for Reserve Bank priced-services activities. Some BHCs provide similar services through their correspondent banking activities, including payment and settlement services. BHCs also hold respondent (''due-to'') balances, which are similar to depository institution balances held by Reserve Banks, and have publicly available financial information.[13] As a result, BHCs have been considered the most reasonable proxy for a peer group. A major drawback to using BHCs as the proxy is that they offer diverse services with different risk profiles that reach well beyond the payment services that are provided by the Reserve Banks, such as consumer and corporate lending and investment services. Currently, the top 50 BHCs by deposit balance are used as the priced-services peer group, and since the inception of MCA, the peer group has always consisted of BHCs.

In its request for comment, the Board considered looking at the level of a BHC's involvement in correspondent banking activity, its capital structure, and its solvency ratings to refine the BHC peer group to match better the Federal Reserve priced-services activities and reduce the effect on the ROE of these noncomparable services in which BHCs are involved. The Board specifically requested comment on two alternatives to choosing a suitable peer group. The first alternative focused on continuing to select the top fifty publicly traded BHCs based on deposit balance. The Board requested comment, however, on adding filters to the selection process to focus on capital structure, risk-weighted asset ratios, and solvency ratings. The Board also requested comment on the efficacy of cross matching the top 50 BHCs by deposit balance with the top 50 BHCs by due-to balances. The Board believed that this additional selection criterion could improve the peer group selection by narrowing the group to include only those BHCs that are more involved in transaction processing and settlement services.

Only one of the commenters who specifically responded to the questions concerning the proposed peer group selection criteria supported the continued use of BHCs as an appropriate peer group for the Reserve Banks' payments services. Two commenters suggested that reliance on BHCs as a peer group would most likely overstate a target ROE for the Reserve Banks because of the overall nature and diversity of the businesses in which BHCs engage. Another commenter argued that the payments business is riskier than other BHC business lines and that using BHCs would understate the target ROE. This commenter suggested eliminating BHCs altogether and exclusively using non-bank payments processing companies as the peer group. Other suggested approaches included screening out firms whose risk profile has been heavily influenced by specific events such as severe credit losses and acquisitions; developing a target ROE based on specific BHC product line information (segment data); and broadening the peer group to include a core group of payment processing companies along with BHCs.

Finding a comparable peer group has been one of the more challenging aspects of targeting an ROE for Reserve Bank priced services. Over the years, the Board has considered a number of ways to refine the peer group to provide a better basis for imputing the profits that would have been earned had the Reserve Banks' priced-services activities been provided by a private-sector business. Earlier efforts examined whether segment data within BHCs could be used to match more closely priced-services activity, or whether other companies such as service bureaus and processing firms would be a suitable proxy for the Reserve Banks' priced-services activity. Using BHC segment data or service bureau financial information presented certain obstacles. There is no standard definition of

[11] According to an article by M.H. Goedhart, T.M. Koller, and Z.D. Williams, Number 5, Autumn 2002 ''The Real Cost of Equity,'' McKinsey on Finance, firms employ a variety of equity risk premium estimation approaches that have led to varying estimates of the equity risk premium from zero percent to 8 percent. The article states further that most practitioners now use a narrower range of 3.5 percent to 6 percent (*http://www.corporatefinance.mckinsey.com/_downloads/knowledge/mckinsey_on_finance/MoF_Issue_5.pdf*).

[12] This estimate will be based on the French data series, which is the standard data series used to estimate the MRP providing monthly return of the market over a one-month Treasury bill from 1927 to present (*http://mba.tuck.dartmouth.edu/pages/faculty/ken.french/data_library.html*)

[13] BHC due-to balances are bank deposits reported on the books of the individual institutions that make up the BHC, which originate from other banks and represent respondent balances held to provide transaction processing and settlement services.

''segment'' for use in financial reporting. As a result, segments may be reported based on any combination of customer type, product, or service provided. It is often impossible to determine in which BHC segments activities comparable to priced-services activities are included. As a result, information is not reliable, complete or consistent across BHCs. Service bureaus also provide diverse services, many of which are not comparable to those of Reserve Banks, and they typically do not provide settlement services, which represent a significant aspect of the Reserve Banks payments processing activity.

Beta Estimation Period and Weighting

In the current method, the beta is estimated from a rolling ten-year period of monthly stock returns for each BHC in the peer group. The returns of each BHC in the peer group are then market-value weighted and compared with the overall market returns. In its request for comment, the Board considered calculating the beta using monthly returns from the market over a rolling five-year period rather than a rolling ten-year period. The Board also requested comment on whether value weighting produces an appropriate beta for the Reserve Banks' priced-services activities and if equal-weighting, or an alternative weighting process, would produce a better beta estimate for priced-services.

Three commenters addressed the beta estimation period. One commenter supported using a rolling five-year period, provided that the year-to-year volatility is not significant. Another commenter also supported using a five-year estimation period to recognize changes in the banking industry. The third commenter suggested using a two-year beta estimation period with weekly or daily observations to incorporate industry changes and the evolution from paper to electronic check processing.

Two commenters addressed the weighting of the peer group beta. One commenter supported the use of equal weighting each BHC's beta to reduce the influence of firms that have large market capitalization but a small concentration of payments processing activities, and added that additional weighting by segment results would provide additional precision. Another commenter stated that value weighting is more theoretically sound.

Beta of 1.0

In its request for comment, the Board noted that some of the difficulties associated with selecting a peer group and estimating the appropriate peer group beta could be eliminated by assuming a beta of 1.0 for Reserve Bank priced services. Finance literature suggests that all betas generally move toward 1.0 over time. Experience shows this to be the case for correspondent banks and other firms that provide payments processing services. Assigning a beta of 1.0 to a firm assumes that investment in the firm's equity carries the same risk as the market, and thus, that investors require the same return on that firm's equity as they do on the market as a whole. Betas greater than 1.0 indicate greater sensitivity to market changes and betas below 1.0 indicate less sensitivity.

Of the five commenters that addressed the beta-equal-to-1.0 assumption, three expressed a preference for developing a beta based on a peer group. These commenters, however, recognized the difficulty facing the Reserve Banks in finding a comparable peer group and recommended that the Board use a different peer group to calculate beta. One commenter supported the idea of setting beta equal to 1.0, indicating that this is a reasonable simplifying assumption in view of the uniqueness of the Reserve Banks' payments business. Another indicated a preference for a static beta as opposed to one determined using a peer group as a way to minimize volatility in ROE targets, but made no suggestions for deriving the beta.

From the comments received and in recognition of the many theoretical and practical considerations in applying a peer group approach as noted earlier, the Board will no longer rely on a peer group when calculating a target ROE. Even though the long-run average of the priced-services beta is close to 1.0 under the current CAPM methodology, the continued use of BHCs as a peer group gives a false sense of precision. Instead, the Board believes that assuming a static beta of 1.0 for the Reserve Banks' priced-services beta is simple to understand, administer, and monitor while providing reasonable results.

C. Income Tax Rate Calculation

The PSAF captures taxes using a targeted pretax ROE.[14] The CAPM ROE is calculated as an after-tax measure and is then converted to a pretax measure. Currently, the PSAF tax rate is the median of the income tax rates paid by the top fifty BHCs by deposit balance over the past five years. Although the Board will not use a peer group to estimate the target after-tax ROE in the future, it believes that the current approach to derive the income tax rate remains reasonable. Because the Reserve Banks provide similar services through their correspondent banking activities, including payment and settlement services, and equity is imputed to meet the FDIC requirements of a well-capitalized depository institution, using a tax rate based on the top fifty BHCs by deposit balance continues to be an applicable and reasonable approach.

D. Broader Issues and Future Industry and Regulatory Changes

The Board requested comment on several broader issues, including annual and multi-year ROE targets, and future industry and regulatory changes.

Overall, commenters supported setting the PSAF annually to correspond with the annual setting of prices. One commenter suggested that the PSAF be computed annually and another noted that a multi-year target ROE could magnify pricing errors. Two commenters noted that firms set long-term ROE goals, and some firms adjust targets to reflect short-term events, but did not suggest that the Board adopt a long-term ROE target. One commenter noted that not offsetting past under- and over-recoveries is not comparable to the private sector and suggested that the Board recover past years' over/under recoveries in the future.

Five commenters suggested setting the target ROE by service line. Two commenters that supported the use of a service line ROE noted that doing so may be difficult due to data availability. One commenter suggested using a peer group consisting of processing companies to develop service line ROEs, while another commenter suggested validating this model with a macroeconomic approach. One commenter stated that the ROE setting process should be consistent year-to-year and did not specifically comment on an entity or service-level ROE.

One commenter suggested that the Board consider withdrawing from the check business and another commenter suggested that the Federal Reserve should not be a ''leader in the clearing business.'' Another commenter encouraged the Federal Reserve to remain a competitive provider of check services, even if cost-recovery is not achieved.

The Board also requested comment on the longer term effect of changes underway in regulatory practices and possible implications to the Reserve Banks' priced-services capital structure and the PSAF in the future. Two commenters noted that setting priced-services equity at five percent of total assets is too low to cover operational risks and suggested that the Board compare the Reserve Banks' capital

[14] Other taxes are included in priced-services actual or imputed costs.

structure to that of payment processing companies.

Two commenters suggested that the Board adopt a ''cost-plus'' benchmarking approach from which a market rate of return would be determined for each business line.[15] While there may be benefits to Reserve Banks in gaining insights from such a study, currently the Board does not contemplate incorporating this approach into its target ROE calculation. Moreover, the Board strives to use only data in the public domain to calculate the PSAF, and data from the study may not be available to the public.

III. Effects of New PSAF ROE Methodology

Using the 2005 final PSAF for illustrative purposes, the data below shows the effect of implementing a CAPM-only approach with a beta of 1.0 assumption, a rolling 40-year MRP, and the coupon-equivalent three-month Treasury bill rate as the risk-free rate. Applying the revised approach to the 2005 PSAF equity level results in a $70.2 million decrease.

TABLE.—PSAF ILLUSTRATION

[$ in millions]

	Pretax ROE (percent)	×	Equity	=	Cost of equity	PSAF
Three model approach[16]	18.1		$808.0		$146.2	$161.0
CAPM-only approach	9.4		808.0		76.0	90.8

IV. Competitive Impact Analysis

All operational and legal changes considered by the Board that have a substantial effect on payments system participants are subject to the competitive impact analysis described in the March 1990 policy statement ''The Federal Reserve in the Payments System.''[17] Under this policy, the Board assesses whether a change would have a direct and material adverse effect on the ability of other service providers to compete effectively with the Federal Reserve in providing similar services because of differing legal powers or constraints or because of a dominant market position of the Federal Reserve deriving from such legal differences. If the fees or fee structures create such an effect, the Board must further evaluate the changes to assess whether their benefits—such as contributions to payment system efficiency, payment system integrity, or other Board objectives—can be retained while reducing the hindrances to competition.

The Board is changing the PSAF methodology to develop an ROE target that reflects the return earned by private-sector service providers, consistent with the requirements of the MCA. Finance literature suggests that betas move toward 1.0 over time, including betas for correspondent banks and other firms that provide payments processing services. Because there is no perfect peer group for the Reserve Bank priced-services business, the PSAF ROE should be similar to the return of firms that provide similar services. Consequently, the fees adopted by the Reserve Banks should be based on the cost and profit targets that are comparable with those of other providers of services similar to Reserve Bank priced services. Accordingly, the Board believes that these changes will not have a direct and material adverse effect on the ability of other service providers to compete effectively with the Federal Reserve in providing similar services.

V. Paperwork Reduction Act

In accordance with the Paperwork Reduction Act of 1995 (44 U.S.C. ch. 3506; 5 CFR 1320 Appendix A.1), the Board has reviewed the proposal under the authority delegated to the Board by the Office of Management and Budget. No collections of information pursuant to the Paperwork Reduction Act are contained in the proposal.

VI. Conclusion

Based on comments received and further consideration of the issues around the appropriate method for estimating a target ROE, the Board has adopted the following PSAF ROE methodology:

- Use CAPM as the sole analytical method for developing the after-tax target ROE.
- Within the CAPM framework for estimating the after-tax ROE
  - ○ Set the risk-free rate equal to a short-term Treasury bill rate that is consistent with the rate used to calculate NICB. This will help to minimize volatility in net income from changes in interest rates.
  - ○ Use a rolling forty-year average of monthly returns to estimate the market risk premium rather than taking the average since 1927.
  - ○ Discontinue the practice of calculating a peer group beta to be used as a proxy for priced services. Instead, adopt a beta of 1.0, which approximates the return of the overall market.
- Continue to establish the effective income tax rate based on the median tax rate of the top 50 BHCs by deposit balance over the last five years.
- Continue to set the overall level of equity capital based on the FDIC guidelines for a well-capitalized depository institution for insurance premium purposes.

By order of the Board of Governors of the Federal Reserve System, October 11, 2005.

Jennifer J. Johnson,

Secretary of the Board.

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[15] These commenters suggested that the Board participate in a future industry benchmarking study.

[16] For the 2005 PSAF, the CAE model ROE was 22.2%, the DCF model ROE was 19.7%, and the CAPM ROE was 12.3%, resulting in an average of 18.1%.

[17] FRRS 9–1558.

GENERAL SERVICES ADMINISTRATION

Privacy Act of 1974: Republication of a System of Records Notice

AGENCY: General Services Administration.

ACTION: Notice of an updated system of records subject to the Privacy Act of 1974.

SUMMARY: The General Services Administration (GSA) is providing notice of a revision to the record system, Purchase Card Program (GSA/PPFM4–10). The system provides control over expenditure of funds through the use of Federal Government purchase cards. The revision includes a new category of records, credit data, as required by the