c. myers

VIA EMAIL

April 24, 2002

Ms. Becky Baker
Secretary of the Board
NATIONAL CREDIT UNION ADMINISTRATION
1775 Duke Street
Alexandria, VA 22314-3428

Re: Request for comments on the NERA study, "The Evaluation of Credit Union Non-Maturity Deposits"

Dear Ms. Baker:

We appreciate the opportunity to submit our comments on the aforementioned study.

We would like to thank the people of NCUA for their proactive efforts in the field of asset/liability management. ALM is no doubt an evolving issue in which answers are not easy to come by. We have the highest respect for NCUA's concerns and intentions for the safety and soundness of individual credit unions and of the industry as a whole.

Sincerely,

Sally Myers
Chief Executive Officer

SM/ah
Attachment

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RESPONSE TO NCUA REQUEST FOR COMMENTS ON

NERA STUDY:
"THE EVALUATION OF CREDIT UNION NON-MATURITY DEPOSITS"

COMMENTS BY:

c. myers corporation

Sally Myers, CEO

John Myers, President

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SUBMITTED APRIL 24, 2002

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ARRANGEMENT OF COMMENTS

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SECTION 1

INTRODUCTORY COMMENTS

Our comments on this study are written from a solid foundation of experience with Net Economic Value (NEV). A necessary step in NEV is the valuation of credit union non-maturity shares (referred to as non-maturity deposits or NMDs by NERA).

- Our Interactive Decision Model has had NEV capabilities since its first release over 10 years ago.
- Regularly, we perform NEV simulations for many of our hundreds of clients.
- In its study, NERA provides its opinion as to what constitutes a fully-specified model. Our model satisfies requirements as outlined in Table 2 of NERA's study. Refer to Exhibit B, attached.

One may ask why, with so much experience in NEV and extensive NEV modeling capability, is c. myers a critic of NEV? This document should answer the question.

Our comments are written with the best interests of the credit union industry in mind. We have less than a handful of decision-drivers in our organization. One of these is to identify ways to help credit union CEOs take risks in a safe and sound manner so that they can continue to add value to members and potential members. The only way they can add value is by competing effectively in an increasingly tough, competitive environment.

Short-term, it would be easier and more lucrative for us to jump on the NEV bandwagon. Long-term, however, we recognize that it would be a bad thing if the NEV methodology were to become engrained in the credit union industry.

In light of this, we encourage NCUA to recall some specific, proactive language in its mission statement. In addition to the safety and soundness of credit unions, the mission statement states:

> We strive to ensure that credit unions are empowered to make the necessary business decisions to serve the diverse needs of their members and potential members. We do this by establishing a regulatory environment that encourages innovation, flexibility, and continued focus on attracting new members and improving service to existing members. [NCUA Strategic Plan 2000–2005, p. 9]

NERA relied heavily on Office of Thrift Supervision (OTS) practices and data to form its recommendations. However, OTS does not provide similar specific, proactive language in their mission statement. Where NCUA "strives to ensure that credit unions are empowered," OTS has a focus on supervising "efficiently."[1]

We have tried to write these comments so that they could not possibly be misunderstood. In pursuing this objective, we have occasionally used language that some may consider unnecessarily strong or harsh. We do not do so to attack anyone. Rather, we decided that if we were to err, it would be in the direction of clarity instead of relying on subtle meaning.

[1] OTS Mission statement from their 2000–2005 strategic plan: "To effectively and efficiently supervise thrift institutions to maintain their safety and soundness in a manner that encourages a competitive industry to meet America's housing, community credit and financial service needs and to provide access to financial services for all Americans."

SECTION 2

OUR CONCLUSIONS

CONCLUSION 1: This study shows that there is inadequate information available to reliably value credit union non-maturity shares; therefore, no decisions or recommendations should be made based on this study.

CONCLUSION 2: NCUA should not effectively mandate what NERA calls a "one size fits all" (a.k.a. "safe harbor" by NCUA) approach to valuing non-maturity shares based on the information in this study.

CONCLUSION 3: If NERA's recommendation on NMD durations finds any legitimacy with NCUA, many credit union CEOs may feel forced into business decisions that are **not** innovative, flexible, or competitive.

CONCLUSION 4: In critical places, this study lacks reasonableness and accuracy.

CONCLUSION 5: This study is not an evaluation of credit union non-maturity deposits, as the title implies.

CONCLUSION 6: Net Economic Value (NEV) methodology is not an adequate measure of interest rate risks in credit unions. It is not a valid indicator of long-term risks to earnings and net worth.

SECTION 3

SUMMARY

NERA says NCUA asked them to make:

> Recommendations for the most suitable valuation approaches to meet NCUA and member credit union needs. [NERA, p. 1]

It should not be a forgone conclusion that valuing NMDs and conducting NEV simulations will lead to a reliable understanding of a credit union's long-term risks to earnings and net worth.

What are the needs of NCUA and member credit unions?

- With regard to NCUA, recall that its mission statement has a focus of ensuring:

  > … that credit unions are empowered to make the necessary business decisions to serve the diverse needs of their members and potential members. [NCUA Strategic Plan 2000–2005, p. 9]

- We do not see the needs of member credit unions defined in the study. However, through our work with hundreds of credit unions, we have observed that most credit union CEOs and Boards are motivated to—or need to—effectively and consistently serve their memberships and successfully compete in their marketplaces while remaining safe and sound. Our comments are in light of these observations.

NERA's recommendations are not in support of the needs of member credit unions, nor furthering the mission of NCUA. For example, NERA appears to recommend assigning "one size fits all" NMD durations for credit unions that do not explicitly document and model NMD cash flows. This can be dangerous and misleading to NCUA as well as credit union CEOs and Boards.

Of concern to us is that NERA makes this "one size fits all" recommendation, and other related recommendations, despite six significant revelations in, or about, their study.

1. NERA states that:

> …the most important aspect of any valuation method is the experience of the specific institution. [NERA, p. 60]

2. Further, NERA states that:

> …there is little or no published data on the sensitivity of credit union balances to changes in interest rates, nor is there evidence on the retention rate of credit union balances. Thus, the durations on which the recommended maturities for use in simple valuation methods are based do not reflect the experience of credit unions' deposits, but those of banks and thrifts. [NERA, p. 60]

3. NERA does not establish that valuation of NMDs is a reliable, widespread and accepted practice in the banking industry.

4. NERA does establish that there clearly are discrepancies among acknowledged academics and consultants in the bank and thrift arena about methods for valuing NMDs.

5. NERA says it incorporated "ballpark" survey results in drawing its conclusions and making its recommendation about NMD durations.

6. In critical places, this study lacks reasonableness and accuracy.

With such unconvincing and conflicting information, what value, or damage, could come from attempting to value NMDs in credit unions for the purpose of understanding a credit union's long-term risks to earnings and net worth?

We recognize that credit unions have two major uninsurable risks: interest rate risks and credit risks. Each credit union CEO and Board should understand their unique long-term risks to earnings and net worth. However, if the recommended valuation approach is used as a foundation for understanding long-term risks, we believe NCUA and credit union CEOs and Boards could be blindsided when risks finally materialize.

It is more important to ask the right questions than to get the right answers to the wrong questions. *What are available methods to value non-maturity shares?* is not the question to be asking.

We suggest that more reliable and relevant decision information about an individual credit union's safety and soundness will be in the answers to these questions:

1. What are the credit union's long-term risks to earnings and net worth embedded in its current **financial structure**? *Financial structure includes the unique characteristics of a credit union's balance sheet **and** the unique characteristics of a credit union's entire net operating expense structure*.

2. Is the credit union's net worth adequate to absorb potential losses without invading its established minimum net worth in light of CUMAA prompt corrective action?

These questions cannot be answered through valuations of NMDs or NEV simulations.

SECTION 4

SUPPORT OF OUR CONCLUSIONS
CONCLUSIONS 1, 2 AND 3

. . .

CONCLUSION 1: This study shows that there is inadequate information available to reliably value credit union non-maturity shares; therefore, no decisions or recommendations should be made based on this study.

CONCLUSION 2: NCUA should not effectively mandate what NERA calls a "one size fits all" approach to valuing non-maturity shares based on the information in this study.

CONCLUSION 3: If NERA's recommendation on NMD durations finds any legitimacy with NCUA, many credit union CEOs may feel forced into business decisions that are **not** innovative, flexible, or competitive.

. . .

►Point A

Recommendations on the valuation of credit union NMDs are not based on credit union data.

NERA states:

> …there is little or no published data on the sensitivity of credit union balances to changes in interest rates, nor is there evidence on the retention rate of credit union balances. Thus, the durations on which the recommended maturities for use in simple valuation methods are based do not reflect the experience of credit unions' deposits, but those of banks and thrifts. [NERA, p. 60]

►Point B

Data used by NERA to form its recommendation on durations for NMDs are sparse.

General Background

Below we have attempted to sort out the process, as we understand it, which NERA used to determine the data it would use – and not use – to form recommendations to NCUA. Doing so helps the reader understand our Point B. NERA provides premia and duration estimates for three NMD accounts: transaction, money market, and passbook. NERA's Table 4 maps out premia estimates. NERA's Table 5 maps out duration estimates.

Table 4 – Premia Estimates for Non-Maturity Deposits [NERA, p. 37]
In this Table NERA references eight estimates. The various methodologies used to produce the estimates were explained. **NERA eliminated five estimates from consideration for reasons described below**.

- Three of the studies were eliminated from consideration because they involved one individual bank.

  NERA states:

  > First, we do not consider studies of individual banks, because the studies of many banks (such as O'Brien) indicate that premia on individual banks can vary widely. [NERA, p. 39]

- NERA eliminated a fourth study, which was, interestingly, O'Brien (2000). The O'Brien (2000) results were for 75-100 banks, which based on the information provided, appears to be the second largest sampling of banks studied. Yet their results were eliminated from consideration.

  NERA states:

  > O'Brien's (2000) estimates are based on his contingent claims model. Although he reported results for asymmetric and symmetric deposit rate response to rising and falling market rates, we report only the symmetric results in the table, **simply because they are lower and closer to the estimates in the other studies** [bold emphasis ours]. [NERA, p. 38]

Further, NERA states:

> The O'Brien symmetric model results are then outliers, larger than any other studies. …We decided to eliminate the O'Brien results. [NERA, p. 39]

Questions:

If NERA eliminated O'Brien (2000) from their study, why do they use O'Brien (2000) as a reason to also eliminate individual bank studies?

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Why does NERA assume that, because O'Brien's results reflect larger premia than others, the methodology should be eliminated?

- NERA eliminated a fifth study, Hutchison and Pennacchi. The information provided states that the study was conducted on over 200 banks using:

  > … Federal Reserve survey data on commercial banks for estimating deposit rate and balance parameters in their contingent claims model. [NERA, p. 37]

  NERA's reasons for the elimination of Hutchison and Pennacchi estimates are summarized at another point.

Table 5 – Duration Estimates for Non-Maturity Deposits [NERA, p. 40]
In Table 5 NERA maps out duration estimates of each of the three NMD accounts: transaction, money market, and passbook accounts.

A sixth study, Berkovic and Liang (1991) was not used because it did not provide duration estimates. As a result, in Table 5 NERA focuses on just **two** of the estimates from Table 4 to garner data regarding duration for select NMDs. Additionally, they used a new source in Table 5, O'Brien, et al. (1994).

Observation:

The information in Table 5 for O'Brien, et al. (1994) does not mention the period of model estimation, the number of institutions included in the study, nor the type of institutions studied. Further, premia, a reason for eliminating O'Brien (2000) and Hutchison and Pennacchi, are not provided.

Questions:

NCUA commissioned NERA to complete a study of available methods to value credit union non-maturity shares. Why was the methodology used by O'Brien, et al. (1994) not explained in NERA's study?

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Why was the more recent O'Brien (2000) study eliminated and the O'Brien, et al. (1994) used as a basis for NERA's recommendations?

Following is our summary of data used by NERA to form its recommendations on durations for transaction accounts, MMDAs and passbook accounts:

1. Transaction Accounts

For transaction accounts it appears that **NERA eliminated six of the original eight published duration estimates for NMDs**. After adding O'Brien, et al. (1994), the three remaining were Janosi, et al. (FED), O'Brien, et al (1994) and OTS.

- Janosi, et al. (FED): The period of model estimation was 88–95 and was completed using FED aggregate banks.
- O'Brien, et al. (1994)
- OTS: OTS estimates are for thrifts. The period of model estimation shown in Table 5 is 98–01. Additional observations regarding OTS estimates are summarized below.

Observations:

As previously mentioned, the information for O'Brien, et al. (1994) does not mention the period of model estimation, the number of institutions included in the study, nor the type of institutions studied.

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The period of model estimation for OTS appears to be less than five years.

2. MMDAs

After NERA eliminated estimates, the only **one** remaining for MMDA durations was OTS.

Question:

Since the OTS estimate is the only one used for MMDAs, how is NERA able to conclude that it is a sound estimate?

- In Table 4 and Table 5, the period of model estimation for OTS indicates 98-01.
- However, NERA states:

> The OTS reports average deposit premia (and durations) estimated by its model every quarter. We collected the quarterly numbers from June 1998 through December 1999 and computed the median premia for the table. [NERA, p. 38]

Observation:

It is not clear if the period of model estimation was 18 months, 3.5 years (1998–2001), or somewhere in-between. Recall that the date of the NERA study is September 10, 2001.

- NERA states:

> At least five years of monthly data is required so that any statistical tests performed are valid, and so that the data is likely to cover more than the most recent interest rate environment. [NERA, p. 66]

Observations:

Based on the information in Table 4 and Table 5, the period of model estimation of the OTS used by NERA to draw conclusions and make substantive recommendations to NCUA, is shorter than the period NERA recommends in their guidelines for NCUA if a credit union were to complete their own study of non-maturity deposits for valuation purposes.

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Even if the period of model estimation were to cover five years, the most short-term rates increased in the five years prior to 2001 was just over 200 basis points. Five years would not be adequate to cover the diverse interest rate environments our financial markets have experienced.

Caution:
Consider the unique share growth credit unions experienced in 2001. Many call it "a flight to safety." It can be dangerous and misleading for regulatory authorities, CEOs and Boards to assume that the recent unique deposit growth will have the same behavior as the deposits in credit unions pre-2001. For example, we often hear, "I keep lowering my rates and my members do not care. We are finding out that our members are not really rate sensitive." Are the members really not rate sensitive, or is it because their current alternatives are bleak?

3. Passbook Accounts

For passbook accounts three estimates are provided. NERA uses two: O'Brien, et al. (1994) and OTS.

Observations:

The period of model estimation for OTS appears to be less than five years. Even if the period of model estimation were to cover five years, it would not be adequate for the reasons stated above**.**

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The methodology used by O'Brien, et al. (1994) does not appear to be explained in the study.

These observations were explained in more detail above.

►Point C

Much of the non-credit union data used by NERA to form its recommendation on duration assumptions are dated.

- The period of model estimation for Janosi, et al. (FED) was six to 13 years old at the time NERA published its study. The O'Brien, et al. (1994) document was published seven years prior to NERA's study.

  NERA states:

  > Approaches to valuing non-maturity deposits (NMDs) have developed rapidly in the last ten years, reflecting both increased sophistication in general asset/liability modeling, as well as greater understanding of non-maturity deposits and their behavior. [NERA, p. 5]

Observation:

Based on the data used in this study, and the fact that it appears that most of the research has been disregarded by NERA, we conclude that institutions are no closer to understanding the behavior of NMDs than they were years ago.

►Point D

The estimates for NMDs of individual banks were eliminated from consideration.

- NERA states:

  > First, we do not consider studies of individual banks, because the studies of many banks (such as O'Brien) indicate that premia on individual banks can vary widely. [NERA, p. 39]

- The objective of the study as stated by NERA:

> We have been asked by the National Credit Union Administration (NCUA) to evaluate the available methods for valuing non-maturity deposits (NMDs) of individual credit unions. [NERA, p. 1]

Questions:

If an objective of studying NMDs is to ultimately use this information to help credit union regulatory authorities understand an individual credit union's interest rate risks and threats to net worth, then why would studies for individual banks be eliminated from consideration?

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Is it possible that the studies of individual banks were more thorough than those studies that grouped banks together, and that group studies likely required the use of simplifying assumptions, averages, and medians?

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If an individual credit union invests in a comprehensive study of the maturity of their non-maturity deposits for valuation purposes, and the study results in similar premia as those of individual banks listed in Table 4, will NCUA also reject the individual credit union's results, as it appears NERA has with individual bank results in this study?

►Point E

Potentially relevant data from Hutchison and Pennacchi was eliminated without adequate explanation.

Regarding Hutchison and Pennacchi, based on the information provided, the study was conducted on over 200 banks using:

> …Federal Reserve survey data on commercial banks for estimating deposit rate and balance parameters in their contingent claims model. [NERA, p. 37]

It was eliminated from consideration. NERA states:

> … although we can find not [*sic*] specific problems with the Hutchison and Pennachi [*sic*] methodology, the MMDA result, with its higher premium than the transaction account, suggest that these results be treated with caution. [NERA, p. 39]

Observation:

Especially in light of the scarce data, before eliminating a study of over 200 banks that incorporated Federal Reserve survey data, the reasons for the differences should have been further evaluated and then explained.

►Point F

NERA does not adequately explain the potential impact assumptions regarding acquisition and servicing costs can have on valuing NMDs and ultimately NEV.

NERA states:

> … a fully-specified NMD model consists of the following: … An assumption about acquisition and servicing costs, net of any fees paid by depositors. [NERA, p. 12]

Observation:

Assumptions regarding net operating expenses (acquisition and servicing costs, net of any fees paid by depositors) associated with NMDs play a key role in attempting to determine the value of NMDs. The impact on the results of making this key assumption, when attempting to place value on NMDs, is not adequately addressed in the study.

Questions:

Should an individual credit union invest in a study of its net operating expenses by deposit type and use the results of that study to allocate acquisition and servicing costs for the purpose of valuing NMDs?

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If a credit union does not have the wherewithal to invest in a study, should an individual credit union use some type of median or average based on available credit union industry information? If there is no industry information available, should they use available information from another industry?

Observations:

Regardless of the source of information for the assumption (the acquisition and servicing costs, net of any fees paid by depositors), NEV would **only** take into account an assumption regarding the **net operating costs associated with NMDs**.

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Therefore, NEV does not incorporate an individual credit union's **entire** net operating expense structure. Net operating expenses do factor into a credit union's earnings and, consequently, net worth. In attempting to quantify long-term threats to earnings and net worth, a credit union's **entire** net operating expense structure **must** be considered.

►Point G

Overly complex NEV modeling can lead to a wide range of results that can be difficult to understand and explain.

- NERA states:

> Contingent claims-based methods (not to be confused with OAS-based methods) are suitable only for large credit unions that have a detailed history of NMD balances, that have the requisite understanding of contingent claims methods, and that can demonstrate that such a method is appropriate for their institution because actual deposit balance and rate behavior conforms to the assumptions in the models. [NERA, p. 64]

Observation:

Two of the largest bank studies used the contingent claims methodology and were eliminated by NERA from their study.

- O'Brien (2000) was viewed as an outlier because results were higher than the other studies.

- Hutchison and Pennacchi, which also used a contingent claims model, was eliminated. NERA states:

> … although we can find not [*sic*] specific problems with the Hutchison and Pennachi [*sic*] methodology, the MMDA result, with its higher premium than the transaction account, suggest that these results be treated with caution. [NERA, p. 39]

Question:

If credit unions were to use a contingent claims model exactly as NERA specified above and come up with premia similar to those of the studies above – such as 10.9 or 7.0 on MMDAs – what would be NCUA's response?

►Point H

NCUA believes few credit unions would be affected by the results of the NERA study.

- NCUA states:

> NCUA believes the majority of credit unions would not be affected by the results of the n/e/r/a study, either because their interest rate risk profile is limited, or because they treat shares at par value for interest rate risk measurement purposes. This study will be most relevant to those institutions that assume non-maturity shares materially mitigate the risk of a high level of long-term assets. [NCUA Request for Comments, dated 12/13/01]

- NERA states:

> The ranges of durations recommended here reflect the durations of NMDs estimated in the literature and by OTS, and are intended only for those credit unions that do not model NMD cash flows. [NERA, p. 60]

Observation:

We disagree with NCUA's statement that the majority of credit unions would not be affected by the results of the NERA study. The competitive environment is changing rapidly. To keep pace, credit union financial structures, and risk profiles, are changing rapidly as well. For this reason we believe, as time goes on, more and more credit unions would be affected by the NERA study if NCUA decides to adopt its recommendations. If the "one size fits all" approach at some point does not work for some credit unions and they feel their hands are tied competitively, then the logical next step for CEOs may be to invest in their own research. This could lead to results similar to the individual banks eliminated in NERA's study.

Question:

What will happen if a credit union "departs from the recommended range of maturities when it has valid evidence for doing so" [NERA, p. 66], and the NEV results intuitively do not make sense to the regulatory authorities?

►Point I

NERA's duration recommendations do not provide for an individual credit union's deposit strategy relative to the market rate.

- Throughout the study, NERA indicates that changes in cash flows are affected by changes in the institution's deposit strategy relative to the market rate.

Question:

How does NERA's recommendation regarding durations take into account a credit union's strategy on deposit pricing? For example, does this mean that a credit union paying 5% on their money market accounts would have the same duration as a credit union paying 3%?

Observation:

Since NERA's recommendations in Table 1 [NERA, p. 3] do not include changes in duration as rates are changing, one could conclude that it is being suggested that deposit pricing strategy has nothing to do with the cash flow or value of deposits. This does not make sense.

SECTION 4

SUPPORT OF OUR CONCLUSIONS
CONCLUSION 4

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CONCLUSION 4: In critical places, this study lacks reasonableness and accuracy.

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In addition to some previous points made, the following points support this conclusion.

►Point J

NERA reports incorrect information.

- Exhibit A shows *Table 2 – Comparison of Assumptions Underlying Different Valuation Methods for NEV* as stated in the NERA study dated September 10, 2001. [NERA, p. 20]
- Exhibit B shows the corrections NERA made to Table 2. The corrections are posted in the Errata section of the NERA study.

Observation:

The NERA study was initially incorrect in five out of the six categories listed for c. myers corporation (see Exhibit A). NERA did not contact c. myers for validation of model capabilities prior to releasing their study dated September 10, 2001.

►Point K

It seems NERA confuses NEV with net worth.

- NERA states:

> By calculating a credit union's NEV, management can assess the likely impact on net worth or capital… [NERA, p. 9]

Observation:

This conflicts with NCUA's statement that "NEV analysis measures the potential effect of changes in interest rates on net economic value (NEV)" [NCUA Request for Comments, dated 12/13/01], not net worth.

- NERA again confuses NEV with net worth:

> Consider a simple credit union that has $100 (market value) in assets, all invested in mortgage-backed securities (MBS). Those securities are funded by a deposit with a face value of $100. If the deposit premium is 5%, then the liability value of the deposit is $95, and the credit union's net capital is therefore $5. [NERA, p. 54]

Observation*:*

NERA is confusing NEV with net worth (which they also call capital or net capital). NERA's simple example has nothing to do with net worth and has nothing to do with earnings. All the example has to do with is **assumed** values.

Question:

Without NERA having a clear understanding of the distinction between net worth and NEV, can NCUA have confidence in the relevance of their recommendations for the credit union industry?

►Point L

Assumptions regarding acquisition and servicing costs for regular shares seem unreasonable.

Regarding Tables 9, 10 and 11, NERA states that the non-interest costs, also referred to as servicing costs, "were based on OTS data." [NERA, p. 51]

***Observations**:*

A 2 basis point servicing cost (non-interest costs) for passbook accounts, which NERA states are similar to regular shares, seems extremely low. It seems unreasonable that the average dollar of MMDAs has 32 times more non-interest costs than the average dollar of regular shares.

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We referred to information from OTS Asset & Liability Price Tables for the period ranging from June of 1998 to December 1999 for servicing costs (non-interest costs). See Exhibit C for an example of passbook accounts. OTS shows servicing costs for passbook accounts (similar to regular shares) at 1.86%. NERA shows servicing costs at 0.02%**.** As we stated earlier, the assumptions regarding acquisition and servicing costs can dramatically influence NMD value and ultimately NEV results.

►Point M

NERA's basis for recommending a Treasury rate for the discount rate takes an academic approach vs a practical approach.

NERA states:

> The question is: What must be the market value of a liability that always pays a rate less than an equivalent-risk investment opportunity? The arbitrage profit is an inherent part of the value of that liability. [NERA, p. 17]

NERA also states:

> The appropriate discount rate is the Treasury rate, if the cash flows are assumed to have no credit risk. [NERA, p. 13]

NERA further states:

> It is not arbitrage to issue a riskless deposit and invest in a risky investment. [NERA, pp. 17–18]

Observation:

NMDs, unlike Treasuries, have unknown cash flows, are not easily sold and, by definition, are adjustable rate.

Question:

NMDs have different risks than Treasuries. How can there be an arbitrage?

Observation:

We do not agree that the alternative source of funds method would be inappropriate for credit unions in evaluating the value of NMDs. In practice, if a credit union does not have adequate funds to support current loan commitments or loan demand, then the credit union could not borrow at the same rate as the government of the United States. The credit union would seek alternative funds such as non-member deposits and borrowings.

Question:

Why is it acceptable for banks to use the alternative cost of funds method and not acceptable for credit unions? Is it because the alternative cost of funds method could result in better values on credit union deposits?

Observation:

In attempting to value non-maturity deposits there are various logical and defendable alternatives for discount rates. This is demonstrated by the information NERA provides regarding common practices in banks and thrifts. The use of Treasury rates is possibly one alternative.

►Point N

NERA's examples of sensitivity analysis do not appropriately communicate the significant impact changes in assumptions can have on NMD values and, ultimately, NEV results.

Observation:

NERA makes recommendations regarding the durations to be used for valuing credit union NMDs. These durations are not the result of analyzing credit union deposits but, rather, the result of evaluating other studies on deposits from other industries. NERA eliminated most of the available studies on NMDs. OTS is the predominant source for their duration recommendations.

Questions:

Why does NERA not provide tests for NCUA to address the question that NCUA often asks of credit union CEOs: *What if your assumptions are wrong?*

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How different would the premium for NMDs be if a duration of one year, five years, or seven years happened to be chosen? How sensitive is the entire NMD evaluation, and ultimately NEV, to this particular assumption?

Observations:

Although none of the aspects of the model that NERA chose to test shows the impact of a materially different duration, we can take the minor changes in duration shown to illustrate the importance of duration assumptions.

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From NERA's Table 10, we note that a 0.56 years increase in Share Draft duration (from 2.57 in Base Case to 3.13 in Longer) increases the premium by over 30% (from 4.64% to 6.05%). Increasing the duration of Regular Shares by 0.65 years results in a 34% increase in premium.

Question:

If an increase in duration of just over half a year can result in an increase in premium of over 30%, what could be the impact on the results of assuming a duration that is one, two or three years longer?

Observation:

Credit union regulatory authorities and CEOs should be concerned that changes to NMD duration assumptions can determine NEV results. NMDs typically represent more than half of the credit union's total liabilities.

Question:

Because it is the predominate source for their duration recommendations, what process did NERA use to test OTS data and assumptions for reasonableness and accuracy?

SECTION 4

SUPPORT OF OUR CONCLUSIONS
CONCLUSION 5

. . .

CONCLUSION 5: This study is not an evaluation of credit union non-maturity deposits, as the title implies.

. . .

- The objective of the study as stated by NERA:

> We have been asked by the National Credit Union Administration (NCUA) to evaluate the **available methods** [bold emphasis ours] for valuing non-maturity deposits (NMDs) of individual credit unions. [NERA, p. 1]

Observations:

Based on the information in the study, it appears that NERA did not evaluate credit union non-maturity deposits. The name of this study is misleading. A person picking up this study and simply reading the recommendations outlined in *Table 1 - Recommended Durations for NMDs* could assume, based on the title, that NERA had actually studied credit union non-maturity deposits and that Table 1 is the result of an in-depth study of credit union non-maturity deposits.

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To avoid misunderstanding among regulatory authorities and credit union managements, we recommend the title of the study be changed.

SUPPORT OF OUR CONCLUSIONS
CONCLUSION 6

. . .

CONCLUSION 6: Net Economic Value (NEV) methodology is not an adequate measure of interest rate risks in credit unions. It is not a valid indicator of long-term risks to earnings and net worth.

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►Point O

It is assumed that NEV is a valid indicator of long-term risks to earnings and net worth.

General Background

In its request for comments, NCUA states:

> The n/e/r/a study may be useful in evaluating net economic value (NEV) analysis. [NCUA Request for Comments, dated 12/13/01]

Assigning a value to NMDs is a necessary step for calculating NEV.

In Letter to Credit Unions 99–CU–12, NCUA defines interest rate risk as:

> The risk that changes in market rates will adversely affect a credit union's profitability and capital. [NCUA 99–CU–12, p. 2]

Net worth is defined as "the retained earnings balance of the credit union, … not including the allowance for loan and lease loss." [NCUA Part 702.2 Prompt Corrective Action, Definitions]

We will first address NERA's logic for not dismissing NEV.

NERA states:

> Some critics charge that because changing the assumptions used in valuing NMDs can lead to material changes in the value of the deposits and therefore in NEV, that the whole market value approach is fatally flawed and should not be applied to credit unions. Instead, they argue, attention should be focused on measuring the impact of changes in interest rates on book value of capital, earnings, or return on assets. [NERA, p. 9]

NERA'S FIRST ARGUMENT

> The experience of many savings and loans during the late 1980s and early 1990s showed that market based measures of risk such as NEV (or NPV, as it is called by the Office of Thrift Supervision) deteriorated **long before the book value of capital signaled the need for intervention** [bold emphasis ours] by management and regulators. [NERA, pp. 9–10]

RESPONSE

We agree with NERA on **one** point in their statement above: **A credit union's current net worth cannot signal the need for intervention by management and regulators.**

With regard to current net worth, it is not a measurement of risk. Rather, the adequacy of a credit union's net worth should be determined in light of its long-term threats to earnings and net worth.

There are many credit unions today that have net worth ratios in double digits that are not as safe and sound as many of those credit unions that have net worth ratios in single digits.

What is critical is not how much net worth a credit union starts with, but how much it could end up with after bad things happen.

Long-term net worth at risk should be simulated to understand how much net worth could be remaining after absorbing potential losses from interest rate risks and credit risks embedded in a credit union's current financial structure. This must be understood before decisions on new business can be evaluated effectively.

Observation:

It is unfortunate that advanced Long-Term Net Worth at Risk Simulation technology was not available back in the early 1980s to use as an early warning system in thrifts. Long-Term Net Worth at Risk Simulations are not to be confused with NEV.

Observations:

In the late 1980s the risk management tools used by bank and thrift executives were not commensurate with the level of risks they were taking. These were Gap analysis, traditional income simulation, and the application of rate shocks.

Gap: Gap was the primary risk measurement tool used by many banks and thrifts during the late 1980s and early 1990s. It was promoted and required by regulatory authorities. Gap analysis has never been a valid measure of long-term risks to earnings and net worth. It is no wonder many savings and loans had financial calamities.

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Traditional Income Simulations: First, traditional income simulation models, used in the 1980s and 1990s, and still used by some today for risk quantification, is generally conducted for a one- or two-year time horizon. A one- or two-year time horizon is not adequate to capture long-term risks – such as the risks savings and loans had.

Second, if a traditional income simulation model was actually used in a financial institution (not just purchased to satisfy regulatory authorities), then it was used primarily for simulating what could happen to earnings under flat, most likely, pessimistic, and optimistic rate environments. Simulated rate environments, most often based on economists' forecasts, are adequate for planning, not risk quantification.

Third, traditional income simulations typically include someone's assumption about new business. Intermingling existing risks embedded in a current financial structure with assumptions regarding new business will not provide a clear understanding of long-term risks to earnings and net worth.

This problem is magnified if simulations extend beyond one year. It guarantees that existing risk will not be revealed because new business assumptions become a more significant piece of the simulated financial structure.

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Rate Shocks: If an institution rate shocked its balance sheet in the late 1980s or early 1990s, it was typically tested under a +/- 200 or +/- 300 basis point change in rates. Again, many regulatory authorities drove these types of stress tests; just as the +/- 300 basis point stress test is regulatory driven today.

Rate movements in our financial markets in the early 1980s made clear that a typical +/- 300 basis point shock is inadequate to uncover long-term risks to earnings and net worth. This has been made clear again given rate movements our financial markets have experienced in the last 15 months.

Rate scenarios used in risk quantification should include a wide range of rates, rate changes, and shifts in the yield curve. Our theory is that if market interest rate conditions have occurred in the past, there is solid evidence that they are possible.

NERA'S SECOND ARGUMENT

> … NMDs are not the only type of financial asset with indeterminate maturity and uncertain cash flows. The best examples of such financial assets are lines of credit and bonds with embedded options, including callable bonds, putable bonds and mortgage–backed securities that include the homeowner's option to prepay. The traditional methods of valuing, for example, callable bonds was to assume they were either held to maturity or held to call and to discount the cash flows at the yield to

maturity or yield to call on a comparable callable bond. More sophisticated valuation methods now widely used incorporate the changes in bond cash flows that may occur due to the future exercise of the options in response to interest rate changes. In other words, the complexity or lack of definition of cash flows need not prevent valuation based on **reasonable assumptions** [bold emphasis ours]. [NERA, p. 10]

RESPONSE

Observation:

As made clear by NERA, there is no market for credit union deposits. However, there is a market for most bonds and MBS purchased by credit unions.

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It is difficult to believe that NERA is seriously comparing a possible range of market values of callable bonds or MBS, which are widely traded, with a range of possible values for NMDs in credit unions. NERA is making an "apples to oranges" comparison.

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Our real world experience in actually working with hundreds of credit unions is that the impact of market value **assumptions** on callable bonds and MBS do not determine the results. However, the arbitrary assumptions required in valuing NMDs do determine the results.

Question:

If NERA were to complete a study on the valuation of callable bonds and MBS, would there be such a comparable amount of ambiguity that, as with this study, they would have to eliminate more than half the data?

Observation:

Attempts to determine value of credit union NMDs does not validate NEV as a sound methodology for quantifying long-term risks to earnings and net worth in credit unions.

- NERA states:

> The basic objective of any NMD valuation method is to project **accurately** [bold emphasis ours], for a given interest rate scenario, future deposit rates and balances. [NERA, p. 8]

- Later NERA states:

> It is clear from Table 4 that the type of valuation model used leads to quite different estimates of premia. [NERA, p. 38]

Question:

Who will determine the appropriateness of the valuation model and the reasonableness of assumptions for individual credit unions: NCUA or the individual credit union's CEO and management?

NERA'S THIRD ARGUMENT

> … changes in value due to changes in the assumptions do not invalidate the model. Rather, it means that **management and examiners must be careful** [bold emphasis ours] that the assumptions made to value NMDs are appropriate for the institution in the circumstances in which they are to be applied. [NERA, p. 10]

RESPONSE

Observation:

Even when being careful, well-intentioned examiners, CEOs and members of management can still be misled by such an assumption-driven methodology.

- To reiterate, NERA states:

> It is clear from Table 4 **that the type of valuation model used leads to quite different estimates of premia** [bold emphasis ours]. [NERA, p. 38]

Questions:

Who will determine reasonableness of assumptions for individual credit unions: NCUA or the individual credit union's CEO and management?

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If NCUA puts into place NERA's recommendation, how often will NCUA change the "one size fits all" NMD durations in order to make sure they are "appropriate for the institution in the circumstances in which they are to be applied." [NERA, p. 10]

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What will be NCUA's decision drivers for changing the "one size fits all" NMD durations?

Observations:

Proponents of NEV often fail to point out that the nature of the assumptions is vastly different for each of the three methodologies. For example:

Traditional Income Simulations require assumptions regarding new business decisions, which would be different depending on the rate environments assumed. When assumptions about new business are inter-mingled with a credit union's existing financial structure, existing long-term risks to earnings and net worth are masked. Assumptions about new business **can** determine results**.**

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NEV does not require assumptions regarding new business. It does require assumptions regarding discount rates, acquisition and servicing costs, maturities of non-maturity deposits, and rate sensitivity of deposits. These assumptions **do** determine results.

▪ ▪ ▪

Long-Term Net Worth at Risk Simulations do not require assumptions regarding new business decisions or discount rates and maturities of non-maturity deposits. They do require assumptions about the rate sensitivity of deposits and loans. Assumptions about the rate sensitivity of deposits and loans **influence – but do not determine –** the results.

Questions:

What is the benefit, or danger, of regulatory authorities and credit union CEOs and Boards relying on methodologies, such as NEV, where the assumptions determine the results?

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How can CEOs and Boards make the sound and necessary business decisions if the foundation of their decisions is based on flawed decision information?

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Would it not be better to use a methodology where the actual financial structure of the credit union determines the results, not the assumptions?

Some key observations about NEV summarized:

There is significant evidence to show that NEV methodology will not reliably quantify long-term risks to earnings and net worth. For example:

1. There are many logical, defendable assumptions that can be applied to valuing deposits and, ultimately, NEV that can result in materially different results. The user can manipulate NEV results.

2. Potential changes in net discounted cash flows of a balance sheet are not reasonable proxies for potential changes in earnings and net worth that could be triggered by changes in market interest rates.

3. NEV does not provide an early warning system for changes in CUMAA net worth classifications. It does not indicate how much money a credit union could lose and when losses could occur.

4. NEV ignores a credit union's unique operating expense and fee/other income structure. Operating expenses and fee/other income play a major role in a credit union's earnings and, consequently, net worth.

5. Holding NEV assumptions constant in an attempt to see if risk is increasing from simulation to simulation does not provide reliable decision information regarding the long-term safety and soundness of the credit union. Our premise: It is important to understand existing levels of risk relative to net worth. Understanding how risks have changed is meaningless without a sound understanding of the current situation.

Question:

What is the benefit of going through numerous gyrations of studies and "if – then" statements, if there is no market for credit union non-maturity deposits and it does not tell you anything about long-term risks to earnings and net worth?

Closing Observations:

It is more important to ask the right questions than to get the right answers to the wrong questions. *What are methods to value non-maturity shares?* is not the question to be asking.

We suggest that more reliable and relevant decision information about an individual credit union's safety and soundness will be in the answers to these questions:

1. What are the credit union's long-term risks to earnings and net worth embedded in its current **financial structure**? *Financial structure includes the unique characteristics of a credit union's balance sheet **and** the unique characteristics of a credit union's entire net operating expense structure.*

2. Is the credit union's net worth adequate to absorb potential losses without invading their established minimum net worth in light of CUMAA prompt corrective action?

These questions cannot be answered through valuations of NMDs or NEV simulations.

SECTION 5

ABOUT c. myers corporation

Since the early 1980s, c. myers' leaders have been providing intellectual and technological leadership in decision information and balance sheet risk management to CEOs, senior managements, and Boards.

For over 10 years, we have focused our resources on providing credit union CEOs, senior managements, and Boards with interactive, look-ahead, reliable decision information – fast. We help them understand potentials for earnings, losses and long-term net worth at risk. We do this with *Long-Term Net Worth at Risk Simulations*.

We have had much experience with the use of concepts such as NEV dating back to the 1980s. We have also had the capability to conduct NEV simulations in our model since the inception of our company in 1991.

We have hundreds of clients, including nearly half of those credit unions over $1 billion in assets, more than 25% of those over $100 million, and many under $100 million.

Exhibit A

Excerpt from "The Evaluation of Credit Union Non-Maturity Deposits" by NERA

Table 2. Comparison of Assumptions Underlying Different Valuation Methods for NEV

Description: This table indicates how various models satisfy the requirements of a fully-specified model..

Method	Market Interest Rate Uncertainty	Deposit Rate Tied to Market Rate	Remaining Balance tied to Market Rate	Includes Acq. & Svc. Costs	Discounting	Effective Maturity
CU/ALM	None	No	No	No	None	1 Month
IPS-Sendero	None	No	No	No	None[1]	User-Defined
PROFITstar	Scenarios	No	No[2]	No	None[2]	Long
CUNA Model Management	Scenarios	No	Yes[3]	No	Yes[4]	User-Defined
C. Myers	Scenarios	No	No	No	None	Zero
Hutchison & Pennacchi	Vasicek Model[5]	Yes	Yes	Yes	Treasury rate	30 years
Jarrow & van Deventer (Kamakura Associates)	Heath-Jarrow-Morton (HJM)[5]	Yes	Yes	Yes	Treasury rate	30 years
McGuire Performance Solutions	Scenarios or Random	Yes	Yes	Yes	Alternative cost of funds	17+ years
O'Brien	Cox-Ingersoll-Ross (CIR) Model[5]	Yes	Yes	Yes	Treasury rate	30 years
OTS (2001)	None[6]	Yes	Yes	Yes	LIBOR + OAS	30 years
Selvaggio	CIR[5]	No	Yes	Yes	Eurodollar + OAS	30 years

Source: Original papers and NCUA internal documents.

Note: [1] User can override and supply NMD value.
[2] User can supply balance decay rates. Discounting at offering rate.
[3] One user choice is based on an OTS table developed by Forin and Associates.
[4] User-defined or yield-curve based discount rate
[5] The Vasicek model generates random, mean reverting spot (zero-coupon) rates. The CIR model is similar but does not allow negative rates. The HJM model is based on random evolution of the forward rate curve, which then determines the random evolution of spot rates.
[6] One future path of spot rates is assumed based on current forward rates.

Exhibit B

Excerpt from "The Evaluation of Credit Union Non-Maturity Deposits" by NERA

ERRATA FOR
"THE EVALUATION OF CREDIT UNION NON-MATURITY DEPOSITS"

Table 2 is changed as follows:

Method	Market Interest Rate Uncertainty	Deposit Rate Tied to Market Rate	Remaining Balance tied to Market Rate	Includes Acq. & Svc. Costs	Discounting	Effective Maturity
C. Myers	Scenarios	Yes[a]	Yes	Yes[b]	Yes[c]	User-defined

Source: C. Myers
Note: [a] Allows user-defined relationship.
[b] Allows user assumptions.
[c] Allows user to choose Treasure rates or alternative cost of funds.

Exhibit C

Excerpt from OTS "Asset & Liability Price Tables"

Passbook Account Intangible Prices
As a Percent of Outstanding Balance
As of December 31,1999

December Deposit Rate	November Deposit Rate	Interest Rate Scenarios						
		-300	-200	-100	0	+100	+200	+300
0.50	0.50	0.24	0.69	1.67	5.01	8.30	11.35	14.19
0.50	1.50	0.10	0.56	1.55	4.89	8.18	11.24	14.09
0.50	2.00	0.01	0.50	1.49	4.83	8.13	11.19	14.04
0.50	2.50	-0.02	0.43	1.42	4.77	8.07	11.13	13.98
0.50	3.00	-0.05	0.36	1.36	4.71	8.01	11.08	13.93
0.50	5.00	-0.14	0.09	1.13	4.50	7.81	10.88	13.74
1.50	0.50	0.00	0.48	1.47	4.82	8.11	11.17	14.02
1.50	1.50	-0.05	0.36	1.35	4.70	8.00	11.07	13.92
1.50	2.00	-0.07	0.29	1.28	4.64	7.94	11.01	13.87
1.50	2.50	-0.10	0.21	1.22	4.58	7.89	10.96	13.81
1.50	3.00	-0.13	0.14	1.16	4.52	7.83	10.90	13.76
1.50	5.00	-0.23	-0.05	0.91	4.31	7.62	10.70	13.57
2.00	0.50	-0.04	0.38	1.37	4.72	8.02	11.08	13.94
2.00	1.50	-0.09	0.25	1.25	4.61	7.91	10.98	13.83
2.00	2.00	-0.12	0.18	1.18	4.55	7.85	10.92	13.78
2.00	2.50	-0.14	0.09	1.12	4.49	7.79	10.87	13.73
2.00	3.00	-0.17	0.00	1.06	4.43	7.74	10.81	13.67
2.00	5.00	-0.27	-0.09	0.81	4.21	7.53	10.61	13.48
2.50	0.50	-0.08	0.27	1.27	4.63	7.93	11.00	13.85
2.50	1.50	-0.13	0.13	1.14	4.51	7.82	10.89	13.75
2.50	2.00	-0.16	0.04	1.08	4.45	7.76	10.83	13.70
2.50	2.50	-0.19	-0.01	1.02	4.39	7.70	10.78	13.64
2.50	3.00	-0.21	-0.04	0.96	4.33	7.64	10.72	13.59
2.50	5.00	-0.32	-0.13	0.69	4.11	7.43	10.52	13.40
3.00	0.50	-0.12	0.16	1.17	4.53	7.83	10.91	13.77
3.00	1.50	-0.18	0.00	1.04	4.41	7.72	10.80	13.66
3.00	2.00	-0.20	-0.03	0.98	4.35	7.66	10.74	13.61
3.00	2.50	-0.23	-0.05	0.92	4.29	7.61	10.69	13.56
3.00	3.00	-0.26	-0.08	0.85	4.23	7.55	10.63	13.50
3.00	5.00	-0.36	-0.18	0.54	4.00	7.34	10.43	13.31
5.00	0.50	-0.33	-0.14	0.66	4.08	7.41	10.50	13.37
5.00	1.50	-0.39	-0.20	0.48	3.95	7.29	10.39	13.27
5.00	2.00	-0.42	-0.22	0.38	3.86	7.22	10.33	13.22
5.00	2.50	-0.45	-0.25	0.28	3.76	7.14	10.26	13.16
5.00	3.00	-0.48	-0.28	0.17	3.65	7.04	10.18	13.10
5.00	5.00	-0.59	-0.39	-0.06	3.24	6.65	9.81	12.75

The value of passbook accounts appears both on the asset and liability side of the IRR Exposure Report. The prices above represent the value of the "cutomer relationship" of this type of demand deposits and, as such, are an intangible asset of an institution. On the liabilities side of the the value of transaction accounts is equal to 100 percent of their outstanding reportbalance in all nine interest rate scenarios.

The prices listed are for passbook accounts with an annual non-interest cost of 1.86 percent.