No. 22-1092

IN THE
BANKRUPTCY APPELLATE PANEL
FOR THE NINTH CIRCUIT

In re Rillanera Ruiz Silla,
Debtor

RILLANERA RUIZ SILLA,
Appellant
— v. —
NIMA GHAZVINI,
Chapter 13 Trustee-Appellee

ON APPEAL FROM THE UNITED STATES BANKRUPTCY COURT
FOR THE DISTRICT OF HAWAII

BRIEF OF *AMICUS CURIAE* NATIONAL CONSUMER BANKRUPTCY RIGHTS CENTER AND THE NATIONAL ASSOCIATION OF CONSUMER BANKRUPTCY ATTORNEYS IN SUPPORT OF DEBTOR-APPELLANT

July 25, 2022

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RULE 26.1 CORPORATE DISCLOSURE STATEMENT

Silla v. Ghazvini, No. 22-1092

Pursuant to Fed. R. Bankr. P. 8012, Amici Curiae, the National Association of Consumer Bankruptcy Attorneys and the National Consumer Bankruptcy Rights Center, make the following disclosure:

1) Is party/amicus a publicly held corporation or other publicly held entity?

NO

2) Does party/amicus have any parent corporations? **NO**

3) Is 10% or more of the stock of party/amicus owned by a publicly held corporation or other publicly held entity? **NO**

4) Is there any other publicly held corporation or other publicly held entity that has a direct financial interest in the outcome of the litigation? **NO**

5) Does this case arise out of a bankruptcy proceeding? **YES**. If yes, identify any trustee and the members of any creditors' committee. **Nima Ghazvini, Chapter 13 Trustee**

This 25th day of July, 2022.

s/ Tara Twomey
Tara Twomey
Attorney for Amici Curiae

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STATEMENT OF INTEREST OF *AMICI CURIAE*

The National Consumer Bankruptcy Rights Center (NCBRC) is a nonprofit organization dedicated to preserving the bankruptcy rights of consumer debtors and protecting the bankruptcy system's integrity. The Bankruptcy Code grants financially distressed debtors rights that are critical to the bankruptcy system's operation. Yet consumer debtors with limited financial resources and minimal exposure to that system often are ill-equipped to protect their rights in the appellate process. NCBRC files *amicus curiae* briefs in systemically-important cases to ensure courts have a full understanding of applicable bankruptcy law, the case, and its implications for consumer debtors.

The National Association of Consumer Bankruptcy Attorneys (NACBA) is also a nonprofit organization that advocates on issues that may not adequately be addressed by individual member attorneys. It is the only national association of attorneys organized to protect the rights of consumer bankruptcy debtors. NACBA files *amicus curiae* briefs in various cases seeking to protect those rights.

NCBRC, NACBA and NACBA's members have a vital interest in the outcome of this case. The bankruptcy court in this case interpreted Ms. Silla's mortgage loan agreement as requiring her to pay additional, daily simple interest on the unpaid principal arrearage through her chapter 13 plan. Doing so misinterprets the language of the contract and impermissibly modifies the loan terms. Millions of mortgage loans contain the same language at issue in this appeal. As a result, such a misinterpretation could lead to debtor-homeowners being overcharged by many millions of dollars nationwide.

CERTIFICATION OF AUTHORSHIP

Pursuant to Fed. R. Bankr. P. 8017(c)(4), the undersigned counsel of record certifies that this brief was not authored by a party's counsel, nor did a party or party's counsel contribute money intended to fund this brief and no person other than amicus curiae contributed money to fund this brief.

CONSENT

This amicus curiae brief is being filed with consent of the parties.

INTRODUCTION AND SUMMARY OF ARGUMENT

Nearly ten years ago, Ms. Rillanera Ruiz Silla and her husband mortgaged their property. ER0078.[1] Both the promissory note (the "Note") and mortgage (the "Mortgage") were written on standardized forms promulgated by Fannie Mae and Freddie Mac.[2] ER0074-81. These forms, known as the Fannie Mae/Freddie Mac Uniform Instruments, are widely used throughout the nation. It has been estimated that well over three-quarters of residential mortgages are written on Fannie Mae/Freddie Mac uniform instruments. *See* Julia Patterson Forrester, *Fannie Mae/Freddie Mac Uniform Mortgage Instruments: The Forgotten Benefit to Homeowners*, 72 Mo. L. Rev. 1077, 1086-87 (2007). As a result, millions of mortgage loans contain the same language at issue in this appeal.

On November 7, 2021, Ms. Silla's filed a petition for relief under chapter 13 of the Bankruptcy Code. Subsequently, her mortgage creditor filed a proof of claim. ER0065-0093. The proof of claim listed an arrearage of $2,690.65, consisting of the November 1, 2021 payment, which was due but not yet late at the time of filing, and $1200 in fees. ER0066, ER0068, ER0072. Pursuant to Ms.

[1] Record citations are to the "Appendix (Excerpts of Record) to Opening Brief of Appellant Rillanera Ruiz Silla," ECF No. 6, filed July 7, 2022.
[2] More specifically, the note is labeled Form 3200, Multistate Fixed Rate Note-Single Family-Fannie Mae/Freddie Mac Uniform Instrument; and the mortgage is labeled Form 3012, Hawaii--Single Family--Fannie Mae/Freddie Mac Uniform Instrument. E0074-88.

Silla's proposed chapter 13 plan the arrearage was to be treated as a Class 1 claim. ER0015.[3] The chapter 13 trustee objected to the plan and sought clarification about whether any interest should be paid on the arrearage. *Silla Decision* at ER0004. Notably, the creditor did not object to the plan and did not participate in the matter.

In 1994, Congress enacted section 1322(e) of the Bankruptcy Code, which provides that the amount needed to cure a default is determined in accordance with the underlying agreement and applicable non-bankruptcy law. 11 U.S.C. § 1322(e). The bankruptcy court held that to cure the arrearage in accordance with section 1322(e) that "Ms. Silla must pay interest at the contract rate . . . on the delinquent principal ($510.03), but not on any other portion of the arrearage." *Silla Decision* at ER0005-06. This holding was based on an incorrect understanding of how interest in charged and applied as evidenced by the contract itself, the creditor's own payment records, and the Fannie Mae/Freddie Mac Servicing Guides. Ms. Silla moved for reconsideration, which was denied. ER0008-09. This appeal followed.

Contrary to the court's holding, Ms. Silla's Note requires the creditor to apply the borrower's payments *as of the scheduled due date*—regardless of when the payment is actually received, no matter how delinquent the payment may be. If

[3] *See Silla Decision* at ER0003, discussing the automatic reclassification of the mortgage creditors claim.

a payment is late, the creditor may assess a late fee, but no extra interest is charged. This interpretation is reinforced by specific guidance that Fannie Mae and Freddie Mac have issued to servicers about how to interpret the contract terms, including how to charge interest and apply payments. Under the contract and guidance, the only time daily simple interest is allowed is when calculating the payoff on a loan paid before maturity.

The bankruptcy court in this case, however, interpreted the contract as requiring Ms. Silla to pay additional, daily simple interest on the principal arrearage through her chapter 13 plan. Doing so misinterprets the language of the contract and impermissibly modifies the loan terms. Not only does this give Ms. Silla's creditor a windfall, but given the widespread use of identical contract language, such a misinterpretation could lead to debtor-homeowners being overcharged by millions of dollars nationwide.

ARGUMENT

I. The Silla contract, and the Fannie/Freddie uniform instrument, do not allow charging extra interest on late payments, regardless of when a payment is actually made.

A. The contract requires calculating interest as of the scheduled, rather than actual, due date for each payment.

Paragraph 3(A) of the Note says: "Each monthly payment will be applied as of its scheduled due date. . . ." ER0074. Applying a payment is the process of allocating it between the different amounts then due under the note, primarily principal and accrued interest. The payment is first applied to satisfy the amount of interest due, then it is applied to principal due, then to any escrow or fees due. Note at ¶3(A); Mortgage at ¶2; ER0074, ER0080. Finally, any remaining amounts are paid to late charges, other amounts due, and then to reduce to the principal balance. Mortgage at ¶2. ER0080. Applying interest (step 1) requires calculating how much interest accrued since the previous payment; that calculation requires knowing how much time has elapsed since the last payment. Paragraph 3(A) of the Note requires the servicer to calculate the elapsed time as if the payment was received on its scheduled due date. ER0074.

The calculation called for in Ms. Silla's note is called the scheduled accrual method.[4] Under this method, the actual date of each payment is disregarded for purposes of interest calculation. Instead, regardless of the date the payment is actually received, each payment is treated as if it was received on the date due, and the interest applied from each payment is determined by the date the payment was scheduled. 73 F.R. 44521, 44571 (July 30, 2008). The alternative is the daily simple accrual method. Daily simple interest is calculated by counting the actual number of days between payments as made. Under the scheduled method, when a

[4] It has also been called the "monthly interest accrual accounting system." 73 F.R. 44521, 44571 (July 30, 2008).

contract calls for monthly payments, as do most, each payment will be applied to exactly one month of interest—whether made late or early.

The account activity records filed with the creditor's proof of claim in this case demonstrate this concept. Take for example the payment applications on February 2, 2021, and March 8, 2021. E0070-71. For the February 2, 2021 payment, the interest portion was calculated as $253,004.00 (principal balance) times .03875 (interest rate) divided by 12 (months) = $816.99. ER0070-71. This amount—$816.99—was the amount applied to interest even though (a) January has 31 days and (b) the prior payment was credited on January 13—only 21 days earlier. Similarly, the calculation for the March 8, 2021 payment was $252,330.34 (principal balance) times .03875 (interest rate) divided by 12 = $814.82. ER0071. This amount was applied to interest even though (a) February typically has 28 days and (b) the prior payment was credited on February 3—33 days earlier.

These interest calculations are consistent with the "*as of the scheduled due date*" language in the contract and, as explained below, are required by the Fannie Mae and Freddie Mac Servicing Guides when determining interest owed.

B. Fannie Mae and Freddie Mac's servicing guides show that, that for loans like Ms. Silla's, the principal balance accrues exactly thirty days of interest between payments—regardless of when payments are made.

Fannie Mae and Freddie Mac publish extensive guidance for servicers of the loans they guarantee.[5] These guides confirm that the contract terms at issue allow thirty days interest for each payment—not the daily simple interest ordered by the court below. Instead, the Fannie and Freddie Guides both state that they do not purchase daily simple interest mortgages; Freddie calls them an "unacceptable mortgage product."[6] They could hardly have intended their own forms to be interpreted as permitting daily simple interest when they do not purchase such loans. While the lender is legally considered the drafter of a contract, the Fannie and Freddie guides show the intent of the actual author. Any ambiguity should be construed in the borrower's favor. 11 Williston on Contracts § 32:12 (4th ed.) ("it is a generally accepted principle that any ambiguity in that language will be interpreted against the drafter" and "courts sometimes state the rule in terms that

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[5] The Fannie Mae Single Family Servicing Guide is available at https://servicing-guide.fanniemae.com/ (hereinafter "Fannie Guide"). The Freddie Mac Single-Family Seller/Servicer Guide is available at https://guide.freddiemac.com/ (hereinafter "Freddie Guide").

[6] Freddie Guide 1301.11: Enforcement of representations and warranties related to underwriting of the Borrower, Mortgage Premises and project (as of 03/31/22), (c) Life-of-loan representations and warranties: Unacceptable Mortgage products, see Addendum p.A04; Fannie Mae Seller Guide, A2-2-07, Life-of-Loan Representations and Warranties (08/07/2019), Life-of-Loan Exclusions: Unacceptable Mortgage Products, see Addendum p.A13.

ambiguities are to be interpreted in favor of the promisee"); 1A Bruner & O'Connor Construction Law § 3:87 ("When applied to standard agreements not authorized by either party, the rule is not so much 'construed against the drafter,' but construed against the party offering the form."); *Murabayashi v. Honolulu Fed. Sav. & Loan Ass'n*, 848 F.2d 1243 (9th Cir. 1988) ("We now accordingly hold that the note read together with the mortgage was ambiguous [and] that the ambiguity is to be construed against the drafter").

Most mortgage loans call for monthly payments, like Ms. Silla's. As the guides make clear, each payment is to be applied as of its scheduled due date. The interest charged on the unpaid principal balance accrues interest always for thirty days. If a payment is made a few—or many—days late, the interest portion of that payment is still only thirty days of interest—no more. Both the Fannie Mae and Freddie Mac Guides specifically require using only thirty days of interest.

As explained in the Freddie Mac Guide,

> Unless otherwise specifically required by law, the interest portion of the payment must be determined by computing one full month's interest on the outstanding principal balance . . . **regardless of the day on which the payment is actually received.** To determine the interest due for the month, multiply the outstanding principal balance by the interest rate of the Mortgage and divide by 12.

Freddie Guide Chapter 8103: Servicer Accounting and Application of Payments, 8103.3 Accounting methods (03/02/16) (a) Amortization method (emphasis added), see Addendum p.A06; *see also* Fannie Guide, F-1-09, Processing

Mortgage Loan Payments and Payoffs (10/19/2016): Table: Calculating the Interest Portion of a Mortgage Loan Payment ("If the mortgage loan . . . is a fixed-rate first lien mortgage loan[, t]hen the interest portion must be determined by calculating . . . 30 days' interest" on the unpaid principal balance.), see Addendum p.A10.

Significantly, Freddie Mac's guide expressly states that this method is required by the contract documents: "The Fannie Mae/Freddie Mac Uniform Instruments provide for this amortization method, unless the law of the State where the Mortgaged Premises are located specifically requires a different method." Freddie Guide Chapter 8103: Servicer Accounting and Application of Payments, 8103.3 Accounting methods (03/02/16) (a) Amortization method, see Addendum p.A06

If the interest due in connection with delinquent payments—such as the payment included in Ms. Silla's plan—was to be calculated using daily interest, the guide would have said so. Such a conclusion is reasonable because, elsewhere, both Fannie's and Freddie's guides specify the use of daily interest where appropriate, such as when calculating mortgage payoffs involving a period of less than a month. Freddie Guide Chapter 8103: Servicer Accounting and Application of Payments, 8103.3 Accounting methods (03/02/16) (b) Interest calculations involving a period of less than one month ("For interest calculations involving a period of less than one month (for example, Mortgages paid in full or third-party sales), the amount of interest must be based on actual days and a 365-day year."), see Addendum p.A07

C. Paragraph 1 of the security instrument confirms that this contract uses the scheduled accrual method rather than daily simple interest.

Paragraph 1 of the Mortgage confirms this interpretation of the language in the note, as it specifically instructs how the lender is required to deal with interest due on late payments and reflects the difference between simple and scheduled accrual loans. According to paragraph 1:

> Lender may return any payment or partial payment if the payment or partial payments are insufficient to bring the Loan current. ... If each Periodic Payment is applied as of its scheduled due date, then Lender need not pay interest on unapplied funds. Lender may hold such unapplied funds until Borrower makes payment to bring the Loan current. . . .

ER0079. As permitted by the quoted text, when a loan servicer receives a payment that is less than called for by the note, the standard practice is to hold the funds in an "unapplied funds" account (also called a "suspense" account). When funds are held in such an account, the servicer does not give the borrower credit for the payment. The uniform instrument lets the servicer do so without paying the borrower any interest "If each Periodic Payment is applied as of its scheduled due date . . . ." (In fact, the servicer may actually invest the funds and earn interest on them for its own account). This is considered fair to the borrower because the loan is not accruing any extra interest while the unapplied funds are held.

The account activity filed along with the proof of claim in this case shows that on August 13, 2020, funds were held as "Unapplied funds" and later credited to the account on August 17, 2020. ER0069. No credit for four days interest was given because the payment was applied "as scheduled" and used the same formula as all the other payments: principal times interest divided by 12. For the August 17, 2020 payment the calculation was $257,000.66 (principal balance) times .03875 (interest) divided by 12 = $829.90.

In contrast, if this had been a daily simple interest loan, the unpaid principal would continue accruing interest while the servicer held the unapplied funds. For that reason, the servicer could be expected to pay interest on those funds, unless the servicer sent the payment back to the borrower.

Paragraph 1 of the Mortgage phrases this as a voluntary practice ("*If* each Periodic Payment is applied . . .), but paragraph 3(A) of the Note makes scheduled accrual mandatory.

D. The only time daily simple interest is permitted under this contract is when calculating the interest due on an early payoff in a partial month.

The only possible deviation from the use of scheduled accrual accounting on this loan is when the borrower pays the loan off early. As explained in the section of Fannie Mae's guide entitled "Calculating Interest on a Payoff," "A full month's interest should be calculated on the basis of a 360–day year [i.e. 30 days per

month], while a partial month's interest should be based on a 365–day year." Fannie Guide, F-1-09, Processing Mortgage Loan Payments and Payoffs (10/19/2016): Calculating Interest on a Payoff, see Addendum p.A11.
Freddie Mac similarly says "For interest calculations involving a period of less than one month (for example, Mortgages paid in full or third-party sales), the amount of interest must be based on actual days and a 365-day year." Freddie Guide Chapter 8103: Servicer Accounting and Application of Payments, 8103.3 Accounting methods (03/02/16) (b) Interest calculations involving a period of less than one month (published 12/09/19), see Addendum p.A07. Notably, the guides mention nothing about daily interest calculations for principal in arrears at any time.

II. The clause relied on by the court, stating that "interest will be charged on unpaid principal until" paid in full, does not authorize daily simple (or post-confirmation) interest.

The court below relied on a sentence from paragraph 2 of the note: "Interest will be charged on unpaid principal until the full amount of the Principal has been paid." *Silla Decision* at ER0004; Hrg. trans. at 4, lines 8-11, ER0062. But that sentence does not address how interest is calculated or applied. As a result, it does not contradict or restrict the application of paragraph 3(A) and the mortgage's application provisions. Instead, the purpose of the quoted sentence is to establish that the loan will be amortized using the "U.S. Rule" on the application of partial (i.e., installment) payments, rather than another method known as the "Merchants' Rule."

While these subjects now seem rather arcane, they were once the subject of significant debate and litigation, reaching the highest state courts and the U.S. Supreme Court.[7] Although both methods produce similar amounts of interest on short term loans, on long-term installment loans the Merchants' Rule can lead to the absurd result of the creditor owing the debtor money. Morris R. Neifeld, *Neifeld's Guide to Installment Computations* 321-22 (1953) ("In partial payments on small amounts for short maturities the Merchants' Rule is sufficiently accurate, but it takes a curious turn when used for large amounts over maturities for many years. The position of debtor and creditor may be reversed."); Joseph Barnett, Jr., *A Comparison of the United States Rule with the Merchant's Rule for Computing the Maturity Value of a Note on Which Partial Payments Have Been Made*, 23 Mathematics Magazine 24 (Sep.-Oct. 1949) ("for notes having large face values, the difference between the maturity values computed by the two methods may be large."). Hence, the need for paragraph 2 to clarify which method will be used.

Under the Merchants' Rule, interest is computed on the original amount of the loan (usually annually) until maturity. Simultaneously, as the debtor makes

[7] *See, e.g., Story v. Livingston*, 38 U.S. 359, 364 (1839) (resolving split among states on which rule to use); *Spires v. Hamot*, 1844 WL 5053, 8 Watts & Serg. 17 (Pa. 1844) (reversing jury award based on improper use of Merchants Rule).

each partial payment, the creditor puts those funds in a separate account that accrues interest. Then at maturity, the amounts in the two accounts are setoff against each other.[8] As one law review article explained:

> the Merchants Rule, for calculating interest on partial payment contracts, is to calculate the interest on the debt without regard to partial payments, and ascertain the amount of such interest; then separately to calculate interest on each partial payment, from the time of payment to maturity of the debt, and credit such interest on partial payments against the interest first calculated on the debt . . . .

Frederick Vierling, *Interest on Investments, and Amortization of Premiums Paid and Accumulation of Discounts Allowed Thereon*, 5 St. Louis L. Rev. 134, 136 (1920).

A chapter entitled "Partial Payments" from a 1928 accounting textbook explains the difference between the two rules as follows:

> A debtor who owes a large amount may by agreement make equal or unequal payments on the principal at regular or irregular intervals. . . .
>
> Methods.—There are two methods of applying these payments of principal and interest to the reduction of the debt. The method adopted by the Supreme Court of the United States is termed the "United States Rule"; the other method, which business men have adopted by a custom more or less prevalent, is termed the "Merchants' Rule."
>
> United States Rule.—The United States Rule . . . has for its object a just settlement without allowing compound interest. [It] holds [in relevant part] that when a part payment is made on an interest-bearing debt, the payment must first be used to discharge the accumulated interest, and what remains of the payment is to be applied in cancellation of the principal.

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[8] For an example of the Merchants' Rule in operation, see *Tracy v. Wikoff*, 1 U.S. 124, 1 Dall. 124 (Pa. 1785), *abrogation recognized by Spires v. Hamot*, 1844 WL 5053, 8 Watts & Serg. 17 (Pa. 1844).

> [Example omitted]
>
> Merchants' rule.—Find the amount of the debt (principal and interest) to the date of final settlement, or if for more than one year to the end of the first year. Deduct from this the sum of all the payments and interest on same to the date of settlement, or to the end of the year. The remainder will be the amount due at date of settlement, or at the beginning of the new year.
>
> [Example omitted]
>
> The difference of $ 1.72 [in the examples], between the balance as computed by the Merchants' Rule and the balance as computed by the United States Rule is small, but a much greater difference will occur when the time is long and the amount large. It is usual to compute the balance due on notes of one year or less by the Merchants' Rule.

Curtis & Cooper, Mathematics of Accounting 73-74 (1928).

The critical term that makes paragraph 2 of the note a reference to the U.S. Rule is "*unpaid* principal." According to the U.S. Rule, the creditor calculates interest on the current, unpaid principal balance (in contrast to the original balance) whenever a payment is made. If the payment equals or exceeds the interest due, the payment is immediately applied to pay the accrued interest and any excess to reduce the balance. *Story v. Livingston*, 38 U.S. 359, 364 (1839). In other words, the lender deducts the accrued interest from the payment received from the borrower and uses it to pay off the interest due. Then the lender takes what's left of the payment and uses it to pay off a portion of the principal due on the loan (or other charges, escrow, etc. as permitted by the loan documents).

Because interest is calculated on the current, remaining *unpaid* principal each time a payment is received, the amount of interest owed declines as the balance declines. As a well-regarded text on consumer installment credit states, "[t]his method of crediting interest has become known as the United States Rule. It is the Supreme Court precursor of the current term: 'interest computed on unpaid balances.'" Neifeld, *supra* at 323. And "interest computed on unpaid balances" is essentially the same as what the Silla contract says: "interest will be charged on unpaid principal . . . " By linking this phrase to the U.S. Rule, this text emphasizes how the clause quoted by the court below is intended to make the parties follow the U.S. Rule for applying installment payments during the life of the loan and does not have anything to do with the calculation of per diem interest.

III. The court below misread the declaration submitted in support of Silla's motion to reconsider.

The debtor submitted an expert declaration supporting her interpretation of the mortgage contract with her motion for reconsideration. According to the hearing transcript, the court said of the declaration:

> it made me think pretty hard, the one thing that I did not see there, . . . What [the declarant] doesn't have is how it worked out on this loan. What did this Creditor actually do for this loan? I think it would be a different case, perhaps, if it could be shown that this lender treated the loan payment balance—calculated the loan balance in a way which is consistent with the Debtor's position. I don't have that.

Hrg. Trans. at 9, lines 1-11 [ER0062]. The declaration does, however, do exactly what the court said it does not. It describes how this creditor treated the loan payment balance on Ms. Silla's loan and concludes that the creditor used the scheduled accrual method. The declaration said as follows:

> 22. The actual accrual method used by the debtor's creditor can be derived from the payment history on the proof of claim.
>
> * * *
>
> 28. As shown [in the table accompanying paragraph 27 of the declaration], the accrued interest calculated by the creditor, in column E matches the amount I calculated for using the scheduled method in column F.
>
> 29. If the creditor had used the daily accrual method, the proof of claim would have shown the interest amounts listed in column H.
>
> 30. This analysis shows that the creditor used the scheduled accrual method described in this declaration.

ER0050. It appears that the court misread the declaration and did not realize that it provided exactly what the court sought.

CONCLUSION

The question of whether to require post-confirmation interest on the principal portion of the arrearage in this matter depends on the terms of the contract at issue. 11 U.S.C. § 1322(e). Ms. Silla's contract is a uniform instrument published by Fannie Mae and Freddie Mac and used in millions of mortgages in the United States. The text of the contract requires payments to be applied as of their scheduled due date and does not allow daily simple interest, as required by the court below.

This interpretation of the contract is supported by text of the contract and the extensive guidance published by Fannie Mae and Freddie Mac. Where there is any ambiguity, it should be construed against the drafter—in this case, the creditor. The creditor, itself, did not object to the absence of post-confirmation interest in this case. And, given the widespread use of the contract language at issue, the fact that creditors nationally do not routinely seek post-confirmation interest also supports construing the contract as prohibiting it. Awarding post-confirmation interest on mortgage principal arrears in Ms. Silla's case, or any other involving the Fannie/Freddie uniform instruments, would impermissibly modify the terms of the contract and would give the creditor a windfall.

For these reasons stated above, the decision of the bankruptcy court below should be reversed.

Respectfully submitted,

s/ Tara Twomey

Tara Twomey, Esq.
Attorney for Amici Curiae

CERTIFICATE OF COMPLIANCE WITH TYPE-VOLUME LIMITATION, TYPEFACE REQUIREMENTS, AND TYPE STYLE REQUIREMENTS

1. This brief complies with the type-volume limitation of Fed. R. Bankr. P. 8015(a)(7) and Fed. R. Bankr. P. 8017(a)(5) because it contains 4516 words, as determined by the word-count function of Microsoft Word, excluding the parts of the brief exempted by Fed. R. Bankr. P. 8015(a)(7)(B)(iii).

2. This brief complies with the typeface requirements of Fed. R. Bankr. P. 8015(a)(5) and the type style requirements of Fed. R. Bankr. P. 8015(a)(6) because it has been prepared in a proportionally spaced typeface using Microsoft Word in 14-point Times New Roman font.

s/ Tara Twomey
Tara Twomey, Esq.
Attorney for Amici Curiae

ADDENDUM

Part A

Excerpts from Freddie Mac Single-Family Seller/Servicer Guide data differs from information in the Mortgage file, significance) in order for Freddie Mac to enforce a remedy for each Mortgage.

In determining whether the data inaccuracy is significant, Freddie Mac will rely on its Loan Product Advisor simulator, which approximates the Risk Class at the time of delivery. Freddie Mac will compare the Loan Product Advisor simulator assessment using true and accurate information with the Loan Product Advisor simulator assessment received at the time of delivery.

A data inaccuracy will be considered significant only if the Mortgage receives a worse Loan Product Advisor assessment from the simulator than was received at the time of delivery to Freddie Mac, except that Freddie Mac will also take into account any applicable negotiated terms of business when determining significance. Freddie Mac will provide the Seller/Servicer with documentation supporting the significance determination.

If Freddie Mac determines that the Mortgage would have been eligible for sale but under different terms than those under which the Mortgage was sold, as described in number 2 of the third bullet above, Freddie Mac will not seek repurchase, but instead will re-price the Mortgage, consistent with the Seller's Purchase Documents in effect on the Settlement Date, to reflect the true risk profile of the Mortgage.

- **Clear title/First Lien priority.** The Mortgage must be enforceable as a First Lien (with no pending condemnation proceedings) and have clear title through foreclosure.

- **Compliance with laws.** The Mortgage must comply with all applicable federal, State and local laws, ordinances, regulations and orders, including, without limitation, State anti-predatory lending laws and regulations.

  For all Mortgages with Application Received Dates on or after July 1, 2021, and all Mortgages with Settlement Dates after August 31, 2021, in addition to ensuring compliance with applicable laws, Sellers must ensure that all ATR Covered Mortgages satisfy the QM requirements of the Revised General QM Rule, even if the Seller is not required by law or regulation to comply with the Revised General QM Rule.

- **Unacceptable Mortgage products**

  The Mortgage must be a Mortgage product acceptable for sale to Freddie Mac. The Seller/Servicer will not be relieved of Freddie Mac's enforcement of its representations and warranties for unacceptable Mortgage products, including, but not limited to, the following:

  - A Mortgage with an interest-only feature

- A Graduated Payment Mortgage
- A Mortgage originated with stated or no income and/or asset documentation (Relief Refinance Mortgages and Enhanced Relief Refinance Mortgages are not considered a Mortgage originated with stated or no income and/or asset documentation)
- A Mortgage subject to negative amortization
- A construction loan (other than a Construction Conversion Mortgage)
- A daily simple interest Mortgage
- A Prepayment Penalty Mortgage with an Application Received Date on or after January 10, 2014 or a Freddie Mac Settlement Date after July 31, 2014
- A reverse Mortgage
- A Mortgage with balloon payments (with or without a reset option)
- A second Mortgage

1301.12: Non-discrimination (03/15/18)

Freddie Mac expects all Seller/Servicers with whom Freddie Mac does business to practice the principles of equal opportunity and non-discrimination in all business activities. As such, Seller/Servicers must not discriminate on the basis of race, color, religion, sex, age, marital status, disability, veteran status, genetic information (including family medical history), pregnancy, parental status, familial status, national origin, ethnicity, sexual orientation, gender identity or other characteristics protected by law.

Chapter 8103: Servicer Accounting and Application of Payments

8103.1 Servicer fiscal responsibilities (03/02/16)

The Servicer must prepare its balance sheet and other financial statements that clearly reflects the sale of Mortgages to Freddie Mac as a sale of assets. This is required in addition to the file identification and marking of accounting records required elsewhere in this Guide.

8103.2: Mortgage accounting records (06/12/19)

(a) Permanent records

The Servicer must maintain permanent Mortgage accounting records for each Mortgage sold to Freddie Mac. The records must contain the complete Freddie Mac nine-digit loan number assigned to the Mortgage.

(b) Accounting system

Freddie Mac requires that the Servicer's Mortgage accounting system be able to produce an account transcript for each Mortgage, itemizing the following in chronological order:

- The date, amount and breakdown of principal, interest and Negative Amortization of each payment
- The date to which interest is paid
- The date, amount and nature of each disbursement, advance, adjustment or other transaction affecting the amounts due from or to the Borrower

The system must also be capable of providing:

- The current outstanding principal balance and Negative Amortization of the Mortgage
- The current Escrow (impound) balance
- Disclosure of any insufficiency in Escrow balances for a Mortgage

(c) Accounting principles

The Servicer must maintain the accounts and records for Freddie Mac-owned Mortgages according to sound and generally accepted accounting principles in a manner that permits

Freddie Mac's representatives or designees to examine and audit these accounts and records at any time.

8103.3: Accounting methods (03/02/16)

(a) Amortization method

The Servicer must use the amortization method of individual loan accounting, with interest calculated in arrears, for each Mortgage it services for Freddie Mac. Under this method, an individual Mortgage payment is applied to interest and principal by first calculating the interest portion and then applying the balance of the payment as a principal reduction.

Unless otherwise specifically required by law, the interest portion of the payment must be determined by computing one full month's interest on the outstanding principal balance (Exhibit 62, Interest Calculation: Amortization Method) regardless of the day on which the payment is actually received. To determine the interest due for the month, multiply the outstanding principal balance by the interest rate of the Mortgage and divide by 12.

Factors used for interest calculations must be carried to at least six decimal places, then rounded to the nearest decimal place based on the third digit. After applying the interest portion of the payment, the remainder is applied to principal.

The Fannie Mae/Freddie Mac Uniform Instruments provide for this amortization method, unless the law of the State where the Mortgaged Premises are located specifically requires a different method. If applicable law specifically requires a different method, the Servicer must so notify Freddie Mac **(see Directory 7)** in writing before remitting payments to Freddie Mac. When computations involve multiple installments, such as several delinquent installments, the interest from each may be computed using the same principal balance (Exhibit 63, Interest Calculation: Amortization Method). The amount to be applied to interest from each installment also may be calculated in succession, using the principal balance remaining after the previous calculation and principal application (Exhibit 64, Interest Calculation: Amortization Method). Similarly, a method that strictly applies payments according to a predetermined amortization schedule is also acceptable.

For Initial Interest℠ Mortgages, the monthly payment will be interest-only followed by fully amortizing principal and interest payments beginning on the First Amortizing Payment Date. For Initial Interest Mortgages, Servicers must have the ability to produce monthly payment statements for Borrowers.

In addition, for Initial Interest 3/1, 5/1 and 7/1 10-year Interest Only Period ARMs, Servicers must be able to track the first Interest Change Date and the First Amortizing Payment Date separately.

(b) Interest calculations involving a period of less than one month

For interest calculations involving a period of less than one month (for example, Mortgages paid in full or third-party sales), the amount of interest must be based on actual days and a 365-day year.

(c) Interest-in-advance

Freddie Mac does not permit the use of the prepaid interest or interest-in-advance methods on Mortgages purchased. Any Servicer using the interest-in-advance method must convert to the interest-in-arrears method for Mortgages purchased by Freddie Mac before delivering the Mortgages to Freddie Mac.

8103.4: Application of payments: general (03/02/16)

Except as described in Sections 8103.5 through 8103.7 all payments of the monthly installment due shall be applied as specified in the Security Instrument.

8103.5: Application of payments: differences in collection (03/02/16)

For each Mortgage, all payments received must equal or exceed the monthly principal, interest and Escrow, if applicable, unless a deficiency of $50 or less occurs. The Servicer must not create a payment deficiency by deducting a late charge from the regular monthly payment. Refer to Section 9102.2 for further information on late charge collections.

A Mortgage payment, including Escrow amounts that is deficient by $50 or less may be:

- Applied by reducing the amount credited to the Escrow balance
- Credited to an unapplied or suspense funds account until a full payment is received
- Returned to the Borrower for a complete payment

If the deficiency exceeds $50, the partial payment must be either credited to unapplied or suspense funds until a full payment is received or returned to the Borrower.

Partial payments received from a Borrower during a repayment plan must be held in Freddie Mac's Escrow Custodial Account until a full payment is received.

Refer to Section 8302.4 for requirements regarding the deposit of partial payments to the Escrow Custodial Account.

Part B

Excerpts from Fannie Mae Single Family Servicing Guide

Announcement SVC–2015–11	August 12, 2015

F-1-09, Processing Mortgage Loan Payments and Payoffs (10/19/2016)

Introduction

This Servicing Guide Procedure contains the following:

- Applying a Mortgage Loan Payment
- Calculating the Interest Portion of a Mortgage Loan Payment
- Processing a Principal Curtailment
- Collecting an Advance Made on Behalf of the Borrower at Payoff
- Calculating Interest on a Payoff
- Collecting a Prepayment Premium
- Applying Funds Remaining After Payoff in an Interest Rate Buydown Plan Account
- Satisfying the Mortgage Loan and Releasing the Lien

Applying a Mortgage Loan Payment

The servicer must apply monthly payments in the order described in the following table, in accordance with C-1.1-01, Servicer Responsibilities for Processing Mortgage Loan Payments.

Date of mortgage loan instruments	Monthly payments must be applied in the order listed
Instruments dated March 1999 or later	1. Interest 2. Principal 3. Deposits for escrow items, as applicable. Such deposits may include: • taxes and assessments; • property or MIPs; • leasehold payments or ground rents; and • community association dues, fees, and charges. 4. Late charges, if any

Date of mortgage loan instruments	Monthly payments must be applied in the order listed
Instruments dated before March 1999	1. Deposits for insurance and taxes, if applicable 2. FHA service charges, if applicable 3. Interest 4. Principal 5. Late charges, if any

Calculating the Interest Portion of a Mortgage Loan Payment

The servicer must calculate the mortgage interest portion of the monthly payment as follows, in accordance with C-1.1-01, Servicer Responsibilities for Processing Mortgage Loan Payments.

If the mortgage loan is…	Then the interest portion must be determined by calculating…
a fixed-rate first lien mortgage loan	30 days' interest on the UPB as of the LPI date and using the current accrual rate.
a fixed-rate first lien biweekly mortgage loan	14 days' interest on the UPB as of the LPI date and using the current interest accrual rate.
a fixed-rate second lien mortgage loan	each monthly payment using the payment-to-payment calculation method, when this is required by the security instrument. Otherwise, interest must be determined as outlined above.
an ARM loan	each monthly payment based on its applicable effective interest accrual date.

> **Note**: Multiple interest accrual rates may apply.

Processing a Principal Curtailment

If the borrower includes a principal curtailment with his or her monthly payment when the mortgage loan is current, the servicer must apply monthly payments in the order described in the following table, in accordance with *Processing Additional Principal Payments for Current Mortgage Loans* in C-1.2-01, Processing Additional Principal Payments.

When the borrower submits a principal curtailment...	The servicer must...
with the scheduled monthly payment	apply the scheduled monthly payment first, then apply the principal curtailment.
at any other time of the month, separately	apply the principal curtailment first, then apply the next scheduled monthly payment.

After a substantial principal curtailment, the servicer may, in accordance with *Processing Additional Principal Payments for Current Mortgage Loans* in C-1.2-01, Processing Additional Principal Payments, agree to reduce the P&I payment only (based on a re-amortization of the current UPB and using the current interest rate and remaining loan term) for any current portfolio mortgage loan or for a current first lien mortgage loan that is in an MBS pool.

Collecting an Advance Made on Behalf of the Borrower at Payoff

When a mortgage loan is paid in full, the servicer is responsible for collecting any advances made on behalf of the borrower along with the mortgage loan payoff, in accordance with C-1.2-03, Processing Payments in Full. The following table describes the servicer's responsibilities related to collecting advances.

✓	The servicer must...
	Collect any funds advanced on behalf of the borrower.
	Remit the repayment as a special remittance to Fannie Mae, and within 30 days of the payoff date, if Fannie Mae advanced the funds.

> **Note**: The repayment of advances must not be included as part of the payoff proceeds.

Calculating Interest on a Payoff

In accordance with C-1.1-01, Servicer Responsibilities for Processing Mortgage Loan Payments, the servicer must calculate the amount of interest charged to the borrower

- based on the UPB of the mortgage loan,
- as of the LPI date, and
- using the current interest accrual rate.

A full month's interest should be calculated on the basis of a 360–day year, while a partial month's interest should be based on a 365–day year.

Part C

Excerpts from Fannie Mae Single Family Selling Guide

> the conditions for repurchase in A3-2-01, Compliance With Laws, are satisfied. Loans that are not subject to repurchase under A3-2-01 may be subject to other remedies. Loans that violate Fannie Mae's Responsible Lending Practices or an FHFA directive are subject to repurchase.

Life-of-Loan Exclusions: Unacceptable Mortgage Products

Certain mortgage loan products are not purchased by Fannie Mae. As such, these products are not eligible for the enforcement relief described in A2-3.2-02, Enforcement Relief for Breaches of Certain Representations and Warranties Related to Underwriting and Eligibility. Note that the list below is not intended to be exhaustive; it should be used as a reference tool in conjunction with the requirements of the *Selling Guide.*

Examples of loan products that Fannie Mae does not purchase are

- mortgages with an interest-only feature;
- graduated-payment mortgages, including growing-equity mortgages;
- mortgages originated with stated or no income and/or asset documentation (high LTV refinances are not covered by this provision);
- mortgages subject to negative amortization;
- construction mortgages (other than construction-to-permanent);
- daily simple interest mortgages;
- mortgages with prepayment penalties;
- reverse mortgages;
- mortgages with balloon payments (with or without a reset option); and
- second liens or other junior mortgages.

Related Announcements

The table below provides references to the Announcements that have been issued that are related to this topic.

Announcements	Issue Date
Announcement SEL-2019-07	August 07, 2019
Announcement SEL-2015–12	November 03, 2015
Announcement SEL-2014–16	December 16, 2014
Announcement SEL-2014–07	June 24, 2014

Part D

Excerpts from Other Authorities

Chapter 11

PARTIAL PAYMENTS

Part payments on debts.—A debtor who owes a large amount may by agreement make equal or unequal payments on the principal at regular or irregular intervals. The creditor should have interest on the loan, and it is fair that each payment made should draw interest in favor of the debtor.

Methods.—There are two methods of applying these payments of principal and interest to the reduction of the debt. The method adopted by the Supreme Court of the United States is termed the "United States Rule"; the other method, which business men have adopted by a custom more or less prevalent, is termed the "Merchants' Rule."

United States Rule.—The United States Rule, which is now a law in many of the States, having been made so either by statute or by court decision, has for its object a just settlement without allowing compound interest.

The court holds that when a part payment is made on an interest-bearing debt, the payment must first be used to discharge the accumulated interest, and what remains of the payment is to be applied in cancellation of the principal. But if the payment is smaller than the accumulated interest, no cancellation takes place, and the previous principal continues to draw interest until the accumulated payments exceed the accumulated interest.

Example.—An interest-bearing note for $1800 dated March 1, 1920, had the following indorsements:

September 27, 1920	$500
March 15, 1921	$ 25
June 1, 1921	$700

How much was due September 1, 1921?

Solution (U. S. Rule).

Face of Note March 1, 1920		$1,800.00
Interest on $1,800 at 6% from March 1, to Sept. 27, 6 months and 26 days		61.80
Amount due Sept. 27, 1920		$1,861.80
Deduct Payment		500.00
Balance due Sept. 27, 1920		$1,361.80
Interest on $1,361.80 at 6% from Sept. 27, to March 15, 5 months and 18 days, $38.13. As this interest is larger than the payment made at March 15, the interest is not added and the payment is not deducted.		
Interest on $1,361.80 at 6% from Sept. 27, to June 1, 1921, 8 months and 4 days		55.38
		$1,417.18
Deduct Sum of Payments: March 15	$ 25.00	
June 1	700.00	725.00
Balance due June 1, 1921		$ 692.18
Interest on $692.18 at 6% from June 1 to Sept. 1, 1921, 3 months		10.38
Balance due September 1, 1921		$ 702.56

Merchants' rule.—Find the amount of the debt (principal and interest) to the date of final settlement, or if for more than one year to the end of the first year. Deduct from this the sum of all the payments and interest on same to the date of settlement, or to the end of the year. The remainder will be the amount due at date of settlement, or at the beginning of the new year.

Example.—(For comparative purposes, the same problem will be used here as was used as an illustration of the United States Rule.)

Solution (Merchants' Rule).

Face of Note, March 1, 1920		$1,800.00
Interest, 1 year at 6% to March 1, 1921		108.00
		$1,908.00
Deduct:		
First payment, September 27, 1920	$500.00	
Interest at 6% to March 1, 1921, 5 months, 4 days	12.83	512.83
Balance due at Beginning of 2nd Year		$1,395.17
Interest on $1,395.17 at 6%, March 1 to September 1, 1921—6 months		41.86
		$1,437.03
Deduct:		
Second Payment, March 15, 1921	$ 25.00	
Interest at 6% from March 15 to Sept. 1, 1921, 5 months, 16 days	.69	
Third Payment, June 1, 1921	700.00	
Interest at 6% from June 1 to Sept. 1, 1921, 3 months	10.50	736.19
		$ 700.84

The difference of $1.72, between the balance as computed by the Merchants' Rule and the balance as computed by the United States Rule is small, but a much greater difference will occur when the time is long and the amount large.

It is usual to compute the balance due on notes of one year or less by the Merchants' Rule.

This method of computing partial payments compounds the interest at the end of the year, when the time of the note is for more than one year.

Problems.

The following problems should be solved first by the United States Rule and then by the Merchants' Rule, and the answers compared.

1. On a note of $3,500 with interest at 6%, dated October 3, 1920, were the following indorsements: January 1, 1921, $1,000; March 20, 1921, $390; June 2, 1921, $845. What was due September 16, 1921?

A Comparison of the United States Rule with the Merchant's Rule for Computing the Maturity Value of a Note on Which Partial Payments Have Been Made

Author(s): Joseph Barnett, Jr.

Source: *Mathematics Magazine*, Sep. - Oct., 1949, Vol. 23, No. 1 (Sep. - Oct., 1949), pp. 24-26

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show a decrease compared to the previous period. This indicates the point where the greatest profit has been attained. Although we cannot say that V is produced solely by the increase in X, we can say that X should not increase beyond the point which maximizes V.

Note in conclusion that a basic value of V was esdablished before values of X were assigned. In this way causes apart from X have been removed to this extent from the final value of V. If some other factor is believed to increaee with X, that factor should be checked over the sample of stores for a sufficient period. We may say that the X which gives the maximum value of V is a signal beyond which one should not spend.

University, Alabama

A COMPARISON OF THE UNITED STATES RULE WITH THE MERCHANT'S RULE FOR COMPUTING THE MATURITY VALUE OF A NOTE ON WHICH PARTIAL PAYMENTS HAVE BEEN MADE

Joseph Barnett, Jr.

FOREWORD

When partial payments are made on a note before the maturity date there are at least two ways to compute the amount due the holder of the note when it is due. These are designated as the United States Rule and the Merchant's Rule. The rule to be used usually depends upon an agreement between the parties concerned at the time the note is given. However, the United States Rule is based on a decision of the United States Supreme Court to the effect that it is not legal to charge compound interest on a debt. It is the purpose of this paper to show that for notes having large face values, the difference between the maturity values computed by the two methods may be large.

The United States Rule may be stated as follows:

> Simple interest is computed on the note from the time it was given to the time of the first payment by the use of compound time. If the payment is equal to or greater than the interest, it is subtracted from the sum of the face of the note and the interest. Interest is computed for the periods between successive payments on the remainders resulting after subtracting each payment from the sum of principal and interest due at the time it was made; and the process continued until the time of maturity of the note. The result, so obtained, is the maturity value of the note.

But if the payment at any time is less than the interest, the interest is not added to the principal nor the payments subtracted until the time at which the sum of the payments not having been subtracted is greater than or at least equal to the sum of the interests not having been added. Then the sum of the interests is added to the principal and the sum of the payments subtracted. Then interest is computed on the remainder as aforesaid.

In order to compare the two methods, I shall alter the statement of the Merchant's Rule so as to show more clearly the difference of the two methods, and still obtain the same results by its use as those obtained by using it in its usual form. The altered Merchant's Rule may be stated as follows:

Compute the simple interest using compound time on the face of the note from the time it was given to the time of the first payment. From the face of the note subtract the first payment. Compute the interests for the time between successive payments on the remainders of the face of the note after subtracting the payments when they were made. Continue this process until the time of maturity of the note. Then the sum of the interests having accrued at that time is added to the residue of the face of the note. The sum is the maturity value of the note.

Let it be observed that in the case of the Merchant's Rule no interest is added before all the payments have been made, and that in this fact lies the difference in the results obtained by the two methods.

Suppose we use the Merchant's Rule in a problem in which p = the face of the note; r = the rate of interest; $p_1, p_2, p_3, \ldots p_n$ = the 1st, 2nd, 3rd, ... and nth payments, respectively; $i_1, i_2, i_3, \ldots i_n$ = the interest computed for the 1st, 2nd, 3rd, ... and nth periods, respectively; $t_1, t_2, t_3, \ldots, t_n$ = the time between payments, respectively. Hence the maturity of the note is

$$(1) \qquad A = P - p_1 - p_2 - p_3 - \ldots - p_n + i_1 + i_2 + i_3 + \ldots I_n.$$

However, if we use the United States Rule, and let $I_1, I_2, I_3, \ldots I_n$ be the interest computed for the 1st, 2nd, 3rd, ... nth periods respectively, the maturity value will be

$$(2) \qquad A' = P - p_1 - p_2 - p_3 - \ldots - p_n + I_1 + I_2 + I_3 + \ldots + I_n.$$

If equation (1) is subtracted from equation (2), we have an expression for the difference in the maturity values by the two methods:

$$(3) \qquad A' - A = I_1 - i_1 + I_2 - i_2 + I_3 - i_3 + \ldots + I_n - i_n.$$

And since $I_1 = Prt_1$, $i_1 = Prt_1$; $I_2 = (P + I_1 - p_1)rt_2$, $i_2 = (P - p_1)rt_2$;

$$I_3 = (P + I_1 + I_2 - p_1 - p_2)rt_3$$

$$= (P - p_1 - p_2)rt_3 + (I_1 + I_2)rt_3,$$

$$i_3 = (P - p_1 - p_2)rt_3; \ \ldots \ ;$$

$$I_n = (P + I_1 + I_2 + \dots + I_{n-1} - p_1 - p_2 - \dots - p_{n-1})rt_n$$

$$= (P - p_1 - p_2 - \dots p_{n-1})rt_n + (I_1 + I_2 + \dots + I_{n-1})rt_n,$$

$$i_n = (P - p_1 - p_2 - \dots p_{n-1})rt_n,$$

(4) $$A' - A = I_1rt_2 + (I_1 + I_2)rt_3 + (I_1 + I_2 + I_3)rt_4 + \dots + (I_1 + I_2 + \dots I_{n-1})rt_n.$$

In order to take care of the case in which the interest is greater than the payment, let the rth interest be greater than the rth payment. We compute the interest on the remainder after the $(r - 1)$th payment has been subtracted up to the time at which the sum of the payments not having been subtracted equals or exceeds this interest. Then compute the interest on the balance as aforesaid. The maturity value in this case is

$$A' = P + I_1 + I_2 + \dots I_{r-1} + \dots I_{n-m+1} - p_1 - p_2 - \dots - p_n$$

in which m is the number of payments after the $(r - 1)$th up to the time at which the sum of the payments not having been subtracted equals or exceeds the interest not having been added.

For the trivial case in which r is zero, t is zero, or both are zero, $A' = A$; for r and t equal to any positive value, however small, P can be made sufficiently great to make $A' - A$ as large as we please. If, for example, $r = 0.1\%$, $t_1 = 1$ day, and $t_2 = 2$ days, and $P =$ \$360x180x1,000,000,000, since $I_1rt_2 = Pr^2t_1t_2$, the first part of the difference (4)

$$A' - A = (\$360)(180)\text{x}1{,}000{,}000{,}000(.001)^2 \frac{1}{360}\frac{1}{180}$$

or $A' - A = \$1000$. However, it should be remarked that in the cases of practical importance, the differences in the maturity values computed by the two methods are insignificant.

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APPENDIX A

The Merchants' Rule, The United States Rule, and the Actuarial Method

A method of assessing interest in common use among business men is known as the Merchants' Rule. Interest is calculated on the principal sum from its inception to the date of settlement. A similar calculation at the same rate is made on the partial payments received from the debtor; he is allowed interest from the payment date of each to the settlement date.

In practice the amount of the loan or the debt is set down in one column, and to it is added interest from the start of the transaction to the settlement date. On the other side of the account, the partial payments by the debtor are set with interest on each to the date of settlement. The difference between the total interest of the two columns is the net interest required in the settlement.

In commercial transactions governed by the Merchants' Rule it is customary to allow the same rate of interest on the payments as on the debt.

Under a modified version of the Merchants' Rule the modern practice of industrial and commercial banks is to allow a lesser rate of interest on the accumulations than is charged on the debt. This practice applies in some types of consumer credit transactions where the debtor does not repay an obligation directly; but the instalment payments either are accumulated in a deposit account until they equal the amount of the debt or they are applied serially on an investment certificate equal in face value to the debt. When all the deposits are accumulated or the certificate fully paid, the proceeds are used to cancel the debt in one payment or the fully paid certificate is surrendered and accepted in satisfaction of the debt. Interest is generally allowed on the deposits made by the debtor, and this practice naturally acts to reduce the cost.

The Merchants' Rule was never intended for partial payments on one debt but was an equitable method of settlement between merchants, such as exporters and importers, who bought from and sold to each other and who therefore owed each other varying balances at different times.

The arithmetical effect of this method when used for partial payments of one debt is (a) to apply the partial payments entirely to the discharge of the principal until it is repaid and (b) to charge the *lender* interest on any excess over the principal which is paid prior to the settlement date.

In partial payments on small amounts for short maturities the Merchants' Rule is sufficiently accurate, but it takes a curious turn when used for large amounts over maturities for many years. The position of debtor and creditor may be reversed. A case that came before the courts of Virginia brought this reversal to the attention of the learned Chancellor George Wythe. The debt was large and long standing.

Chancellor Wythe in the Ross v. Pleasants decision saw clearly in 1795 that "the mode of adjusting interest...whereby they allow the debtor interest upon the whole of the payments by him is erroneous." A Canadian Court in 1847 stated the case against the Merchants' Rule in these words:

> "The method usually adopted in making out an account between debtor and creditor upon a loan of money; viz., that of charging first the interest upon the whole debt for the whole period, as if no payment had been made, then allowing interest upon each payment from the time it was made, and so deducting all the payments and interest from the whole debt and interest—*is not the correct way* of arriving at the balance. It is so much in favor of the *debtor*, that where there has been a long arrear of interest, and payments made on account by the debtor not covering the interest alone, the debtor in a few years without adding any payment in the meantime, will make his *creditor his debtor* to a very large amount."—McGregor v. Gavlin (4U.C.Q.B. 378)

The Hon. John Beverly Robinson, C.J., wrote the main body of the opinion. He says, regarding the method as stated above:

> "In connection with a prior case I had observed this to be a very common way of stating accounts, and it did not strike me that it was clearly inaccurate, but this case has convinced me that it is so.
>
> "The effect, as we see it in this instance, shews in a strong light that it may in some cases, when the debt is large and of long standing, lead to results very seriously unjust as regards the creditor, for it is plain that it makes him a difference of several hundred pounds, according as the debt is stated one way or the other."

Then he describes the detail of the method as already given above, and goes on to say:

> "It allows him (the debtor) interest upon large sums which during the twenty-seven years he had been paying on account of interest, and upon which no interest had been reckoned against him, the computation of interest on the other side having been confined to the principal sum. In a year or two more the debtor would have become the creditor, due to being allowed interest on sums paid for interest.
>
> "It is obvious upon reflection, and I wonder that I did not see it, when brought to my attention by Mr. Kilpatrick in another case, when the difference was small."

Chancellor Wythe corrected the inequity of the Merchants' Rule by decreeing that as each payment was made, interest on the unpaid balance of the indebtedness should be computed and the payment applied first to the discharge of the interest that had been earned. The excess over the interest was then to be used to curtail the principal.

This procedure was later affirmed as the *correct rule* by the United States Supreme Court.

> "The correct rule in general is that the creditor shall calculate interest whenever a payment is made. To this interest the payment is first to be applied; and if it exceed the interest due, the balance is to be applied to diminish the principal. If the payment fall short of the interest, the balance of interest is not to be added to the principal, so as to produce interest. This rule is equally applicable whether the debt be one which expressly draws interest, or one on which interest is given in the name of damages."—Mr. Justice Wayne in Story v. Livingston (38 U.S. 359) 1839.

In a later case, the rule was put in simpler language by Mr. Justice Brerew of the United States Supreme Court.

> "Interest is to be computed on the amount due to the time of the first payment, then the payment applied, if it exceeds the interest up to that time, and a computation made of the interest on the balance to the time of the second payment, and so on."

This method of crediting interest has become known as the United States Rule. It is the Supreme Court precursor of the current term: "interest computed on unpaid balances."

It is a fact that payments of interest, or even less than interest, can in time reach the point where with the interest upon them they exceed the principal and the interest. After that the debtor need pay no more—his former creditor is more his debtor every day.

The difficulty with the Merchants' Rule arises out of a quasi compounding of interest in favor of the debtor. The creditor receives interest only on the original principal of the debt; he does not receive interest on interest. On the other hand, the debtor receives interest on the whole of each partial payment as if the partial payment were entirely applied to reduce the principal although some part of his partial payment should be for interest. The debtor is benefited by a quasi compounding of interest because he is receiving interest on his interest payments.

The critical point in the inequality in the treatment between the debtor and the creditor is at the moment when the total payments made by the debtor equal the original principal of the debt.

In the language of the learned jurist:

"The mode of adjusting interest whereby they allow to the debitor interest upon the whole of the payments by him, is erroneous. The error may be developed thus: the debitor, allowed interest upon his payments, profiteth doubly by so much as countervaleth interest of the debt; once, by extinction of the interest, and then by being credited with interest upon the whole payment, including that part which extinguished the interest of the debt, and to which that extinction was equivalent; while the creditor receiveth his interest simply and consequently so much less than he ought to receive as is equal to interest on that part of the payment which extinguished his own interest."

An illustration will make clear the error inherent in the Merchants' Rule. In the amortization type of mortgage a payment of $6.60 per month will liquidate a principal amount of $1,000 in 20 years at 5% per annum. If this transaction were computed by the Merchants' Rule, the bookkeeping records would appear thus:

Illustration of the Merchants' Rule:

Loan of $1,000 repayable in 240 equal monthly instalments of $6.60 including principal and interest (charges computed at 5% per annum). Borrower credited at 5% per annum on payments.

Debit		Credit	
Loan......................	$1000.00	240 payments of $6.60 each, amounting to............	$1584.00
20 years interest at 5% per annum....................	1000.00	Interest at 5% per annum on 239 payments from the date each payment is made to the date of settlement. The last payment draws no interest, one payment draws 1 month's interest, another payment 2 months' interest, another 3 months', and so on to 239. The sum of the progression 1 to 239 is 28,680 months, and the interest at $.0275* per month is	788.70
Total	$2000.00		
The lender owes the borrower	372.70		
	$2372.70	Total Credit	$2372.70

* Interest on $6.60 for 12 months at .05% per annum = $.33. Interest for 1 month = $.33/12 = $.0275.

In this illustration the positions of creditor and debtor are reversed with