



## INTRODUCTION



Hispanic-owned businesses play an essential role in our communities, serving as diverse and vibrant economic contributors that create jobs and provide the goods and services we use every day. In my role, I spend much of my time talking with our members to discuss the challenges they face. In this period of economic uncertainty, one issue continually emerges as a top priority: the ability to access capital for their businesses.

Hispanic-owned businesses are a major part of our state and national economy, producing 2.9 million jobs and more than \$472 billion in annual receipts across the country. Like all businesses, they will wither if they cannot secure capital when they need it. Having access to a broad range of financial tools from traditional bank loans to credit cards and other products is important for Hispanic entrepreneurs. But one important source of capital is Revenue Based Finance. Depending on the unique needs and circumstances of a business, Revenue Based Finance can provide quick access to capital that can help propel the growth of small- and mid-sized businesses.

With that in mind, the Florida State Hispanic Chamber of Commerce, in conjunction with several other Chambers of Commerce, presents this analysis to shed light on this less familiar source of capital. This analysis provides expert insights into the transparency and accounting aspects of Revenue Based Finance so that business owners and other stakeholders can make more informed decisions.

This analysis shows how Revenue Based Finance can be an important and effective tool for many businesses. It is not the ser todo y terminar todo - the be-all and end-all - of finance options, nor does it attempt to be. But for thousands of businesses, including many members of the Florida State Hispanic Chamber of Commerce and their peers in other states, it offers a realistic option that can help provide timely access to capital.

Sincerely,

# Julio Fuentes

Julio Fuentes President Florida State Hispanic Chamber of Commerce



## **OVERVIEW**

Revenue Based Finance (RBF) is a highly effective instrument that can quickly provide an infusion of funding for businesses wishing to capitalize on an opportunity, purchase new resources to meet higher demand, replace failed equipment, or otherwise address unanticipated needs. RBF offers numerous advantages over traditional loans, not least of which is a very short turnaround time for companies to receive the funds. However, policymakers in some states mistakenly believe RBF instruments should be regulated in the same way as regular business loans, including cost disclosures based on annual percentage rates (APR). This analysis details how Revenue Based Finance transactions work, why they are better for companies in many situations, and – most significantly – how and why APR is not a meaningful or viable method of accounting for the costs of an RBF transaction.

## **BACKGROUND**

Verve Consulting LLC (Verve), a duly licensed CPA firm in the State of Florida, is pleased to provide an independent perspective on Revenue Based Finance (RBF) transactions and whether Annual Percentage Rate (APR) is a useful metric for businesses considering an RBF transaction to meet short-term liquidity requirements. This report provides a brief description of RBF transactions and provides a few examples, as well as some discussion about the unique characteristics of RBF transactions. The analysis also provides details about why these transactions are not considered loans, a position that has been upheld in courts of law.'

Next the report discusses the existing state regulations and how those are anticipated to affect the industry. From there, the analysis will dive deep into APR and the associated APR equations, concluding that there is not enough information to calculate a reliable estimate of APR within tolerances. This is due to the variables in the APR equation, most of which are determined and held constant in loan transactions but are not held constant by RBF transactions due to the nature of these transactions. Finally, the analysis will conclude that RBF transactions are important to businesses as an alternative to more traditional transactions that businesses use to increase their short-term liquidity. Some states have promulgated regulations that are unlikely to impose significant compliance burdens and costs on RBF companies, while others have promulgated regulations that will almost certainly impose significant compliance burdens and costs on RBF companies. It is important to maintain a relatively low-friction regulatory environment to keep this relatively low-friction method of enhancing businesses' short-term liquidity as a solid option.



## WHAT IS AN RBF TRANSACTION?

For purposes of this analysis, we will identify a business that needs short-term liquidity and will be the recipient of funds from an RBF company as the "seller." Such business would be a party to an RBF contract by selling a portion of its revenue and delivering it via future cash flows to the "buyer" RBF company. Reasons why sellers would enter such transactions include, but are not limited to, capitalizing on an opportunity to achieve competitive advantage; expanding operations to meet demand; and replacing an unexpected failure of equipment used in company operations.

RBF transactions have unique characteristics compared to other methods of increasing liquidity, including:

- **A**. The borrower's obligation in a traditional loan is to repay the agreed-upon amount, with each scheduled payment composed of principal and interest. Certain variables are determined at the outset of the transaction, such as interest rate, maturity date, compounding frequency, etc.<sup>2</sup>
- **B.** The seller's obligation in an RBF transaction is to deliver a percentage of future revenue, provided such revenue exists and the seller is paying back an amount originally advanced, plus an additional fixed fee. The agreed-upon total amount to be paid back to the buyer is delivered by way of the seller's future cash flows.<sup>3</sup>

Example transaction: After receiving an application and conducting the underwriting process, a buyer offers to buy 10% of a seller's future revenue up to \$10,000 - the transaction will terminate when the seller successfully generates \$100,000 in revenue and remits 10% of that revenue to the buyer. The milestone may be reached in

# Seller is granted flexibility and buyer's capital is completely at risk -

As opposed to more traditional products that help businesses meet their liquidity needs, the seller remits a contractually specified percentage of its future revenue. If revenue and subsequent cash flow decreases, then the seller has the right to correspondingly decrease its remittances to the buyer.

The buyer takes the risk that the seller's sales levels may decline, as well as the risk that the seller may fail or go bankrupt - resulting in a loss to the buyer.

a month, it may be reached in a year, or it may never be reached. The immediate funds that the seller receives from the buyer could be anywhere from about \$6,000 up to \$9,000, depending on the business' need, transaction costs, the buyer's required rate of return, and the seller's qualifications as assessed by the buyer through the application and underwriting processes.

<sup>&</sup>lt;sup>2</sup>Based on Cornell Legal Encyclopedia Definition of "Debt"

<sup>&</sup>lt;sup>3</sup>Based on Legal Comment to Draft of California Law



There are many benefits to a business that decides to use an RBF transaction to meet its short-term liquidity needs.

#### **RBF** Transactions:

- 1. Disburse funds quickly
- 2. Generally are not secured by collateral
- 3. Do not require equity dilution or the sale of ownership interest
- 4. Do not bind the business over the long term most are completed within a year
- 5. Feature a fixed repayment amount that is adjustable at the request of the business if its cash flow declines during the term of the transaction.

	Revenue Based Financing	Bank Loan	Venture Capital	
Speed	Within days	1-3 months	2-6 months	
Cost	Flat fee	Variable interest rate based on risk profile	Equity in the company forever	
Risk	Incentive alignment	Personal guarantee and/or collateral	Valuation risk and ownership control	
Accessibility	Broader than other instruments	Cash flow and size limitations	Select businesses with high potential (e.g. tech, finance, etc.)	
Flexibility	Payments adjust based on business revenue	Rigid payments with late fees	Must prioritize shareholder value	

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## STATE REGULATION

Four states have passed laws regarding RBF transactions: New York, <sup>4</sup> California, <sup>5</sup> Virginia, <sup>6</sup> and Utah, <sup>7</sup> and several others are in the process of considering legislation. <sup>8</sup> Virginia and Utah have passed legislation that focuses on disclosures informing the seller of all costs, requirements, and obligations under such a contract and that do not appear to impose significant additional burdens or costs on the buyer. These disclosures have routinely been a part of the information explicitly disclosed to sellers in the specific offer as well as the contract.

Both Virginia and Utah have registration provisions that require actors in the RBF space - including buyers and Independent Sales or Service Organizations (ISOs), to register with the state. These individuals connect sellers to buyers in most RBF transactions (akin to brokers in other transactions). In compiling this analysis we interviewed many industry representatives, and they largely view the registration provisions passed by Virginia and Utah favorably and a step toward greater transparency and accountability, which is similar to other licensed or registered professions.

Laws in New York and California require a buyer to determine and disclose an estimated annual percentage rate. These laws use the words "annual percentage rate" or the abbreviation "APR," expressed as a yearly rate, inclusive of any fees and finance charges, and calculated in accordance with section 1026.22 of Subpart C of Regulation Z (12 C.F.R. s.1026.22) of the federal "Truth in Lending Act" (TILA) (15 U.S.C. s.1601 et seq.) based on the estimated term of repayment and the projected periodic payment amounts.

#### Why RBF Contracts should not include APR

APR is defined in Federal Consumer Credit laws

RBF is a commercial liquidity product not consumer credit and not a loan.

No. 3D19-1643

Since these transactions are not loans there is no stated interest rate for these transactions Nominal, Effective, APR, or otherwise. Forbes - What You Should Know About RBF

An interest or a discount rate is important, because interest is a key component of the APR formula per <u>Appendix J of Regulation Z</u>. Without an interest or discount rate APR cannot be calculated.

<sup>&</sup>lt;sup>4</sup>Legislation | NY State Senate (nysenate.gov)

<sup>&</sup>lt;sup>5</sup>Codes Display Text (ca.gov) & CALIFORNIA CODE OF REGULATIONS TITLE 10, CHAPTER 3

<sup>6§ 6.2-2231.</sup> Disclosure requirements (virginia.gov)

<sup>&</sup>lt;sup>7</sup>Utah Code Section 7-27-202

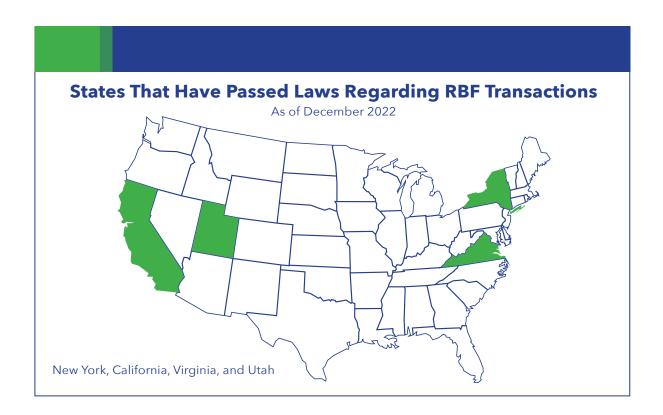
<sup>&</sup>lt;sup>8</sup>Connecticut General Assembly Banking Committee Meeting March 10, 2022 & Transcript & other state bills



TILA is a federal regulatory measure created exclusively for consumer protection and applicable only to consumer debt and credit products. This provision in the California and New York laws, in our view, imposes burdensome compliance requirements and costs by requiring buyers to determine an estimated APR that can be calculated in one of two ways:

- 1. Using the U.S. rule method (calculate interest first, add to principle, apply payment, subtract from principle) [APR U.S. Rule Method]
- 2. Using the actuarial determined method per Appendix J of Regulation Z [APR Actuarial Method]

Either of these methods will only produce a reliable result if some of the terms in the equation can be held constant. However, for RBF transactions they are not held constant because of the favorable nature of the terms to the seller.





An Annual Percentage Rate (APR) is a metric used to compare different consumer loans and other consumer credit products. Revenue Based Finance (RBF) transactions are not intended for consumers and are not loans or credit products. That is enough, in our opinion, to conclude that APR is not applicable to RBF transactions. However, additional details further emphasize this point.

In 1968, Congress passed the Truth in Lending Act, which mandated that lenders disclose information about loans and credit products to borrowers. One important aspect of that disclosure was APR, which aims to give consumers a simple, accurate way to compare loan rates between lenders. The original APR calculation (now called the actuarial method) can be found in Appendix J of Regulation Z of the Truth in Lending Act. However, the government allows lenders to calculate APR using the U.S. Rule Method, which diminishes APR's value as a one-to-one comparison.

The different methods exist because the national government is divided into three branches: legislative, executive, and judicial. The legislative branch is Congress, and they write laws like TILA. The executive is the President and administrative agencies, and the leaders of the following agencies are typically initially nominated by the President and then confirmed by the legislative branch: the Office of the Comptroller of the Currency, the Consumer Financial Protection Bureau, and FDIC. These agencies created more specific regulations, such as Regulation Z, based on acts passed by Congress. The judicial branch is the court system, which resolves disputes about how laws and regulations are implemented and enforced.

In short, Congress passed TILA and then executive agencies codified it into Regulation Z, which includes Appendix J. This amalgamation of legislation, regulation, and case law often creates a more complex and convoluted environment in which the users of credit products must navigate to compare options.

#### **ACTUARIAL METHOD**

The rules for computing an Actuarial APR, along with numerous examples, are specified in Appendix J of Regulation Z. These rules include a special calendar method (commonly called the "Federal Calendar") for counting time between cash flows, as well as how loans are to be amortized.

#### **U.S. RULE METHOD**

Regulation Z also allows the lender to disclose an APR computed according to the U.S. Rule. This rule forbids the capitalization of interest during the amortization of a loan – principal can accrue interest, but interest cannot accrue more interest. The U.S. Rule method does not, however, specify the calendar method to be used in counting time between cash flows.

<sup>&</sup>lt;sup>9</sup>NO. 3D19-1643 & Forbes - What You Should Know About RBF



Many lenders employ the U.S. Rule method to calculate their interest accrual, but different lenders may use different calendar methods for counting time. If a lender discloses a U.S. Rule APR and uses the same calendar method to compute interest, the APR and interest rate should be the same, provided there are no contributions to finance charges other than interest.

The U.S. Rule method of calculating APR is not outlined in Appendix J because there is no single calculation that will compute an accurate APR in all scenarios.

#### **Actuarial Method Calculation Basics**

The actuarial method calculates APR as the interest rate that will cause the present value of future cash flows (payments) on a loan to equal the loan amount. The interest rate is calculated using an iterative method because there is no easy way to calculate exactly what it should be. Because of this, software products use iteration and recursion to guess at the interest rate and then raise or lower it to make the sum of the present value of future cash flows (payments) equal the advance amount, or at least converge to an amount that very closely approximates the advance amount, at the end of the term of the loan.

This causes the calculation of truth-in-lending (TIL) numbers to take longer than you might expect because sometimes it takes numerous iterations to arrive at the correct interest rate, which is used to determine APR.

Once a rate is calculated using such amortization software, the calculations for each transaction should match the APR calculated by the Federal Financial Institutions Examination Council's (FFIEC) APR Computational Tool, as recommended by the FDIC and OCC.

### How to Calculate APR Unit Periods and Odd Days for Irregular First Periods

If the difference between the contract date and the first due date is not equal to a standard unit period, then the loan has an irregular first period. If this is the case, one will need to calculate the number of unit periods in the term of the contract and the number of odd days in the first period in order to calculate APR. This will have an impact on the disclosed APR.

For Revenue Based Finance transactions, the unit period is days. Based on the transactions we reviewed for this report, there typically is no difference between the contract date and the first due date, so this is not an issue unless the buyer includes provisions to delay collections from the seller until a specified time after the contract date. This could be possible, and further emphasizes the uniqueness and complexity of calculating APR for these transactions.

The California and New York laws did not entirely consider the impact of their APR disclosure requirements, as New York clearly stated that such requirements do not impose significant short-term costs on buyers. However, these transactions contemplate the need for sellers to reduce their initially agreed-upon payment levels and extend the agreed-upon payment schedule. This causes difficulty for buyers trying to comply with provisions for disclosure accuracy, since the equations and software are not set up to effectively handle inconsistent payments. Inconsistent payments require that each payment is discounted back to a present value,

<sup>10</sup> HTTPS://WWW.DFS.NY.GOV/SYSTEM/FILES/DOCUMENTS/2021/10/RP\_23NYCRR600\_SAPA\_202110.PDF



and the equation to discount single payments still requires a discount (interest) rate. This rate will be difficult to determine and will likely be part of a large initial cost that neither California nor New York considered. Buyers will need to engage an actuary to determine the interest rate and subsequent APR. The process will be much like how an insurance company determines the premium level in order to remain solvent.

To demonstrate the difficulty and cost of compliance, here is one potential path to compliance following the California and New York laws:

Using historical data, an actuary will likely stratify the population by purchase amount and factor, calculating the interest rate and APR based on the assumptions in the original contract for each transaction. Then, to determine a rate for disclosure of estimated APR, the actuary will likely determine risk factors. The risk factors will be calculated via probabilities based on the number of transactions in each strata that: perform to term; perform to a point and fail; perform to a point and require reduced remittances but perform to an extended term; perform to a point and result in a refund and a new transaction with different terms but the transaction remains in the same strata; perform to a point and result in a refund but the transaction migrates to a new strata; and any other conceivable outcome of a contract, etc. The risk factor will aid in determining the most common transaction outcomes in each stratum, 11 and the median of the APRs for those transactions will be the best estimate for APR disclosure.<sup>12</sup>

#### **APR ADDITIONAL DETAILS**

From a qualitative perspective, studies conducted by the Consumer Financial Protection Bureau, the Federal Reserve, and independent parties indicate that consumers and small businesses appreciate clear disclosures about the cost of capital. The simplest disclosure is the actual dollar amount the business will be paying back in the future in exchange for the smaller amount advanced today. Those studies indicate that APR is not as useful to consumers as actual dollar amount disclosures, so for consumer credit products APR is disclosed on the third page of some consumer credit disclosure forms, such as mortgage loan estimates and closing disclosure forms. As such, APR is unlikely to be considered a useful metric for commercial transactions.

From a quantitative perspective, APR requires determination and disclosure of variables that are not contemplated in RBF transactions. The only variables that exist for APR calculations in an RBF transaction that are held constant are the initial disbursement (advance) to the seller from the buyer (Present Value, or PV) and the sum of the payments to be provided to the buyer by the seller (payments) (Future Values, or FV). The remaining variables - maturity or term (N), compounding or unit periods (T), interest rate (I), and payment (PMT) - are not held constant due to the nature of RBF transactions.

<sup>11</sup> This will likely have an added benefit of providing richer predictive information to the buyer's underwriting department but will come at a substantial recurring cost.

 $<sup>^{12}</sup>$  This entire paragraph simplifies and summarizes concepts described in these two resources 1 and 2

 <sup>&</sup>lt;sup>13</sup> Chin, A., & Bruine de Bruin, W. (2019)
<sup>14</sup> Form Samples & CFPB General Counsel Discussion including a claim that APR is not useful (talking over slide 6 about pg. 3 of disclosure)



#### (8) General equation.

The following equation sets forth the relationship among the terms of a transaction:

$$\frac{A_{1}}{(1+e_{1}i)(1+i)^{q_{1}}} + \frac{A_{2}}{(1+e_{2}i)(1+i)^{q_{2}}} + \dots + \frac{A_{m}}{(1+e_{m}i)(1+i)^{q_{m}}} = \frac{P_{1}}{(1+f_{1}i)(1+i)^{t_{1}}} + \frac{P_{2}}{(1+f_{2}i)(1+i)^{t_{2}}} + \dots + \frac{P_{n}}{(1+f_{n}i)(1+i)^{t_{n}}}$$

To determine APR, Regulation Z prescribes the present value of future cash flow equation shown above. This equation requires a periodic interest rate (i); from the buyer's perspective it is a discount rate, which represents the time value of money. When applied to each payment in the series by way of the following simplified (right side) part of the general equation in appendix  $J[P/(1+i)^{t}]$  it discounts each payment, so the sum of the discounted payments equals the present value of the advance(s) ( $A_{m}$ ) (left side). For a short-term contract with daily compounding, this will produce a rate that will be comparatively high relative to a long-term contract with monthly compounding, holding every other variable constant.

A most significant thing to keep in mind is that in RBF transactions there is no contemplated interest rate. Instead, the payments are required to adjust based on the seller's request that will extend the term of the contract, so it is difficult to contemplate an APR when by its nature the transaction is meant to be fluid and favorable to the seller.

Example transactions: RBF Terms

Buyer Advanced Amount:	\$17,000			
Seller Remittances (Payments) Total:	\$22,950			
Total Finance Charge:	\$5,950			
Payment Term:	115 Business Days			
Payment Amount:	\$199.57			



No stated interest rate is given, so one must be determined in order to comply with the California and New York laws using the iteration process provided in <u>Appendix J</u>, which is the same way the RATE function works in various financial calculators and Microsoft Excel.



However, this approach requires one to assume:

- 1. That the payments are going to remain the same for the term of the contract
- 2. The term of the contract is known and certain
- 3. The payment frequency will remain unchanged for the term of the contract

**APR = 199.7%** - None of the assumptions leading to the calculated ARP are in line with RBF transactions. The resultant APR is exceedingly high because this would be the rate required for such a short term with daily compounding (unit periods) - but it is also the calculated rate for the period 115 days multiplied by 365 because APR is an annualized rate.

To compare with the previous transaction, here are loan terms for a 5-year unsecured commercial loan paid off in 60 monthly payments:

Lender Advanced		APR Tool	New Loan					
Amount:		RESULTS		LOAN INFORMATION	PAY	MENT SCHEDULE	RESULTS	
		ACCOUNT INFORMATION						
		Prepared by Verve	<b>Date</b> 08/29/2022	<b>Borrower's Name</b> GDA	Name of Lender Verve	Original Creditor Verve		
		DISCLOSURE	INFORMATION -	ОИТРИТ	LOAN INFORMA	TION - ORIGINAL INI	PUT	
		Amount Financed \$17,000.00			Amount Financed \$17,000.00			
		Finance Charge \$5,950.00			Disclosed (estimated) APR 12.500%			
		Total of Payments \$22,950.00 Annual Percentage I	Rate		Disclosed Finance C \$0.00 Loan Secured by Rea			
		12.5041 Loan Regularity			No Payment Frequency	_		
		Regular			Monthly (Installment Loan Subject to TRID No			
		PAYMENT FRE	PAYMENT FREQUENCY					
	*	Payment Stream	Payment Amount		nts Whole Unit Periods	Odd Days		
	\$17,000	1	\$382.50	60	1	0		
Borrower Remittances (Payments) Total:	\$22,950							
Total Finance Charge:	\$5,950							
Payment Term:	60 Monthly (5-Years) Payments							
Payment Amount:	\$382.50							
Stated Interest Rate:	12.5%							



**APR = 12.5%** - This rate is lower than in the previous example because the term is longer than a year and it is multiplied by 12, due to the monthly rather than daily compounding. However, the rigid nature of APR still requires an annualized rate. Furthermore, each of these variables is determined at the outset of the loan transaction, and the borrower (as opposed to the seller in an RBF transaction) has much less flexibility - if it can get a bank to lend it money at all. The borrower would be required to pay on the schedule exactly the amount agreed and would be bound to pay back the loan for five years, and it would be unlikely that the borrower would get the funds within a reasonable timeframe if it needed the funds quickly. In contrast, as mentioned above, an RBF transaction is likely to fund within 2-3 days.

As part of this analysis, we provide other examples that demonstrate the sensitivity of APR when fees and other finance charges are part of the transaction. The rules generally state that APR should be calculated by reducing the PV of the advance by fees imposed by the buyer, so if there were \$800 worth of fees the advance amount goes from \$17,000 to \$16,200. This has the effect of increasing the finance charge by \$800, but the APR goes from 199.7% to 234.06%. See Appendix A.

We assured quality of the calculations in these examples by using the Federal Financial Institutions Examination Council's <u>APR Tool</u> (<u>ffiec.gov</u>), which was constructed using the logic in Appendix J.



## **CONCLUSION**

It is important to maintain a low-friction regulatory environment to keep Revenue Based Finance transactions as a seamless and quick method enabling businesses to increase their short-term liquidity. While some jurisdictions seek to apply annual percentage rate (APR) in the RBF space, the Consumer Financial Protection Bureau has stated that consumer testing has shown that APR is not as useful a metric as other disclosures. This can also be seen on many disclosure forms, where APR is relegated to the third page behind other more useful disclosures. Furthermore, it is important to remember that key variables that are required to calculate APR - including interest rate, payment, and term - are either not present in an RBF transaction, or are subject to later adjustment at the request of the seller.

As such, it is our view that APR should not be a required disclosure for RBF transactions. We believe that Utah and Virginia have done an excellent job with their disclosure requirements, including plainly stating the total of applicable charges, the total dollar amount of the advance, the total dollar amount of revenue to be delivered by the end of the contract, the timing of the delivery, the term of the contract, and the planned initial amount of daily revenue to be delivered. RBF transactions are an important and effective tool for many businesses, and the approach of these two states – unlike the schemes adopted in California and New York – will foster continued benefits for companies in need of the rapid infusion of funding available through RBF.



## **REFERENCES**

"Appendix J to Part 1026 - Annual Percentage Rate Computations for Closed-End Credit Transactions." Consumer Financial Protection Bureau, Consumer Financial Protection Bureau, 1 Apr. 2022, https://www.consumerfinance.gov/rules-policy/regulations/1026/j/.

"Appendix J to Part 1026 - Annual Percentage Rate Computations for Closed-End Credit Transactions." Consumer Financial Protection Bureau, Consumer Financial Protection Bureau, 1 Apr. 2022, https://www.consumerfinance.gov/rules-policy/regulations/1026/j/#a.

Booth, Philip, and Duncan E.P. Walsh. "Actuarial Techniques in Risk Pricing and Cash Flow Analysis for U.K. Bank Loans." Digital Commons University of Nebraska Lincoln, University of Nebraska - Lincoln, 1998, <a href="https://digitalcommons.unl.edu/">https://digitalcommons.unl.edu/</a>.

Chin, A., & Bruine de Bruin, W. (2019). Helping consumers to evaluate annual percentage rates (APR) on credit cards. Journal of Experimental Psychology: Applied, 25(1), 77-87. <a href="https://doi.org/10.1037/xap0000197">https://doi.org/10.1037/xap0000197</a>

"Code of Federal Regulations." GovInfo, Authenticated U.S. Government Information, 9 Sept. 2022, <a href="https://www.govinfo.gov/help/cfr">https://www.govinfo.gov/help/cfr</a>.

"Comptroller's Handbook: Truth In Lending Act (Interagency)." OCC, Office of the Comptroller of the Currency, 26 Sept. 2018, <a href="https://www.occ.gov/publications-and-resources/publications/comptrollers-handbook/files/truth-in-lending-act/index-truth-in-lending-act.html">https://www.occ.gov/publications-and-resources/publications/comptrollers-handbook/files/truth-in-lending-act/index-truth-in-lending-act.html</a>.

Chin, A., & Bruine de Bruin, W. (2019). Helping consumers to evaluate annual percentage rates (APR) on credit cards. Journal of Experimental Psychology: Applied, 25(1), 77-87. <a href="https://doi.org/10.1037/xap0000197">https://doi.org/10.1037/xap0000197</a>

#### **Calculation Resources:**

https://www.fdic.gov/regulations/laws/rules/6500-3550.html

http://www.consumerfinance.gov/eregulations/1026-J/2013-30108\_20150718#1026-J-a http://www.consumerfinance.gov/eregulations/1026-J/2013-30108\_20150718#1026-J-b-4-i http://www.gpo.gov/fdsys/pkg/CFR-2015-title12-vol3/pdf/CFR-2015-title12-vol3-part226-ap-pJ.pdf

http://www.occ.gov/publications/publications-by-type/comptrollers-handbook/truth-in-lending-handbook.pdf

#### **Actuarial Resources:**

https://www.soa.org/globalassets/assets/library/monographs/50th-anniversary/product-development-section/1999/january/m-as99-3-05.pdf https://digitalcommons.unl.edu/cgi/viewcontent.cgi?article=1088&context=joap

