VERSITY OF ILLINOIS : COLLEGE OF AGRICULTURE • COOPERATIVE EXTENSION SERVICE CIRCULAR 911 OUR FAMILY AND CONSUMER CREDIT


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## Urbana, Illinois

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JUDGING FROM THE AVAILABILITY OF CONSUMER credit in the United States, individuals and families should have little or no difficulty in finding somebody who will extend credit to them. In fact, more than half of the nation's families use consumer credit every year.

Consumer credit is a business transaction. It enables an individual or a family to get goods, services, or money now and pay for them at some future time - usually within two years. When people use credit wisely, it can help them to attain their goals earlier than would otherwise be possible. When credit is used unwisely, it can become a liability and a threat to financial security.

In general, consumers use credit for the following purposes: (1) to acquire durable goods, such as household equipment or automobiles; (2) to meet unexpected expenses, such as those caused by accidents or illness; (3) to meet everyday expenses when incomes are interrupted, as when the breadwinner is laid off or is ill; (4) to finance family expenses from paycheck to paycheck, or until expected income, such as the returns from sale of farm produce, is received.

## TYPES OF CREDIT

Consumer credit consists of two main types - cash credit and merchandise or sales credit. Cash credit provides funds which may be put to any use. Merchandise or sales credit permits the consumer to postpone paying for specified goods. It is available in different forms such as charge accounts, revolving accounts, budget accounts, or installment accounts.

## Charge accounts

In general, the charge account is one of the most prevalent forms of credit in America. It does not usually involve an interest payment, a promissory note, or a contract form. The charge account is most often payable at the end of 30 days. Although there is no charge for this service, there is often a markup on goods in the store to cover the cost of the service. Sometimes a charge will be made if the account is not paid when due.

## Revolving or budget accounts

Buying on revolving or budget accounts is much the same as buying on the installment plan. These accounts, however, may be used for all types of goods, while the installment plan is used for the more durable goods, such as major equipment. A limit is usually set on the account. The size of the unpaid balance determines how much must be paid every month. For example, a buyer could be allowed a limit of $\$ 100$ and be required to pay $\$ 10$ per month plus $11 / 2$ percent interest on the unpaid balance each month. This would mean an 18 percent annual interest charge, a costly type of credit.

## Installment credit

Installment credit is the type of account used when one is purchasing durable goods and so it involves a relatively large amount of credit. A down payment is usually required, and the rest of the purchase price, plus interest, is paid off in several installments.

The buyer almost always signs a formal contract which defines his obligations. Under this contract the seller holds title to the goods and reserves the right to repossess them if the buyer becomes delinquent in his payments. Before a person signs an installment contract, he should read it thoroughly. Cost of the article, amount paid down, and amount and number of monthly payments should all be taken into consideration.

The cost of installment credit may vary considerably from store to store. Within any given store the cost also varies with the number of payments and the total amount of the installment purchase. Generally, the rate of interest decreases as the amount of the purchase increases. It is therefore difficult to compare the interest rate of installment credit with the rates of other types of sales credit. For specific items of home furnishings and appliances, however, the interest rate is often less on an installment plan than on a revolving credit account if the purchased item costs $\$ 100$ or more with up to 24 months to pay.

## CONSUMER CREDIT AGENCIES

## Commercial banks

Commercial banks make small cash loans to consumers. The amount of money that banks lend and the interest rate they charge may vary in the same community. The same bank, also, may be willing
to lend different amounts of money and charge different interest rates to different individuals. On the whole, commercial banks are one of the best sources for a small loan if you are a good risk and have good collateral. Life insurance policies, which have a loan value, may be used as security for a small loan from a bank.

Bank interest rates vary from 6 to 18 percent a year, with the higher rates being on unsecured loans. It is common for banks to discount a loan; that is, they deduct the interest charge from the principal at the time the loan is made. For example, on a $\$ 100$ loan at 6 percent interest, the borrower would be given $\$ 94$. As brought out on page 8 , the true interest rate on discounted loans is somewhat higher than the stated rate.

## Credit unions

Credit unions are cooperatives organized by a group of people, usually in one industry. To be eligible for a loan, a person must be a member, owning at least one share (usually costing around \$5) in the credit union. This membership entitles him to all voting privileges in the organization. The overhead of a credit union is low, partly because members donate their time for such jobs as serving on a committee that grants loans to other members. Sometimes office space is rent-free.

Credit unions charge less interest than many other agencies. In Illinois the maximum rate of interest is 1 percent a month on the unpaid balance up to the first $\$ 1,000$ of the loan, and one-half of 1 percent on any amount over $\$ 1,000$. On $\$ 1,000$ the true rate of interest would be 12 percent a year. Sometimes credit unions charge rates below the allowed maximum. Usually the borrower repays his loan in monthly installments.

## Life insurance companies

A policyholder may borrow money directly on his life insurance policy after it has been in effect long enough to build up a cash surrender value. Most policies state the amount of money that the company will lend. Companies usually make loans at the annual rate of 5 percent, but this rate may vary.

If a person borrows on his life insurance policy, the face value of protection is decreased by the amount of the loan. If the policyholder should die, the beneficiary is paid only what is left after the loan plus any unpaid interest have been deducted from the face value of the
policy. Since insurance companies encourage but do not demand that such loans be repaid, the borrower may be tempted to postpone repayment. As already indicated, the life insurance policy may serve as collateral for a bank loan, also.

## Savings and loan associations

Savings and loan associations operate under special federal and state laws and usually make loans for home ownership although they may occasionally lend money for other purposes. Persons must buy shares in the company to be eligible for a loan. If the loan is not for home ownership, a person may usually borrow no more than 90 percent of the value of his shares. The interest rate may run from 5 to 12 percent but is usually around 6 percent.

If you need funds, it would seem more realistic to use the savings themselves rather than to borrow against them, especially since you would generally pay more as interest on the loan than you would receive as dividends on your account ( 4 to $41 / 2$ percent). There would be one circumstance where borrowing against a savings and loan account would be justified. If you borrow against your account shortly before the semiannual dividend-declaration date you will receive your dividend for the entire six-month period, and if your loan is for a much shorter period than six months, you may come out ahead on the transaction.

## Consumer finance companies

In Illinois, consumer finance companies are regulated by two laws - the Consumer Finance Act and the Consumer Installment Loan Act. The Consumer Finance Act applies to consumer finance companies that make "small" loans, not exceeding $\$ 800$. These companies are licensed in Illinois. They may charge a maximum interest rate of 3 percent per month on the first $\$ 150$ of the unpaid principal balance; 2 percent per month on the next $\$ 150$; and 1 percent per month on any part of the unpaid balance that exceeds $\$ 300$. The actual annual rate on a loan of $\$ 150$ or less thus amounts to 36 percent. Generally, this is one of the most expensive types of credit from a legal lending agency, particularly for loans of $\$ 300$ or less.

The Consumer Installment Loan Act applies to consumer finance companies that make "large" loans, between $\$ 800$ and $\$ 5,000$. The maximum rate of interest they may charge depends on the length of time of the loan. For example, on loans not exceeding 30 months the
maximum interest rate is 8.5 percent per year. In addition, these companies also have maximum amounts they may charge for life insurance and health and accident insurance policies when these are part of the loan.

Many finance companies operate under both laws, lending up to $\$ 5,000$, while others operate only under the Consumer Finance Act, lending up to $\$ 800$. The latter are often referred to as small loan companies.

## FIGURING INTEREST COSTS

The amount you must pay to use someone else's money is called interest. When you borrow money you pay the lender enough to cover the cost of the money to him, plus a share of the cost of running his office, plus enough profit to make his operation worthwhile. To help in comparing credit costs from different financing agencies, you can translate credit charges into simple interest rates or total dollar costs.

## Simple interest

Simple interest is what you pay for borrowing money that you agree to pay back in a lump sum. It is usually (often by law) expressed as a percentage, or "rate," of the borrowed amount, this percentage being payable for each specified time period that you use the money. For example, you may borrow at the rate of 6 percent per year. If you borrow $\$ 200$ at this rate you would pay $\$ 12$ to use the $\$ 200$ for one year; $\$ 6$ to use it for six months; or $\$ 24$ to use it for two years. A basic arithmetic formula may be used to figure simple interest when the principal and interest are paid at the end of a time period.

Finding the dollar cost of a loan. Assume that you know the principal, interest rate, and length of the loan. To find the dollar cost, you multiply the principal by the annual rate of interest, and then multiply by the time for which the loan is made.

This is expressed by the following basic formula:

$$
\begin{gathered}
\mathrm{D}=\mathrm{PRT} \quad \text { where } \quad \begin{array}{l}
\mathrm{D}=\text { unknown dollar cost of credit } \\
\mathrm{P}
\end{array}=\text { principal (amount borrowed) } \\
\mathrm{R}=\text { annual rate of interest } \\
\mathrm{T}
\end{gathered}
$$

Using the figures in the example given above ( $\$ 200$ borrowed at 6 percent for one year), you would have the results shown at the top of the next page.

```
\(\mathrm{D}=\mathrm{PRT} \quad\) where \(\quad \mathrm{D}=\) unknown dollar cost of credit
    \(\mathrm{P}=\$ 200\)
    \(\mathrm{R}=6\) percent or .06
    \(\mathrm{T}=1\) year
\(\mathrm{D}=\$ 200 \times .06 \times 1\)
\(\mathrm{D}=\$ 12\)
```

If you want to borrow the money for six months (one-half year), the problem would be:

$$
\begin{aligned}
& \mathrm{D}=\mathrm{PRT} \quad \text { where } \quad \mathrm{T}=6 / 12(1 / 2) \text { year } \\
& \mathrm{D}=\$ 200 \times .06 \times 1 / 2 \\
& \mathrm{D}=\$ 6
\end{aligned}
$$

Or suppose that you want to use the money for 2 years:
$\mathrm{D}=$ PRT $\quad$ where $\quad \mathrm{T}=2$ years
$\mathrm{D}=\$ 200 \times .06 \times 2$
D $=\$ 24$
Finding the interest rate. The basic formula ( $\mathrm{D}=\mathrm{PRT}$ ) may be transposed to figure the annual interest rate when the dollar cost is known:

$$
\mathrm{R}=\frac{\mathrm{D}}{\mathrm{PT}} \quad \text { where } \quad \begin{aligned}
& \mathrm{R}=\text { unknown annual rate of interest } \\
& \mathrm{P}=\text { principal } \\
& \mathrm{T}=\text { time } \\
& \mathrm{D}=\text { dollar cost of credit }
\end{aligned}
$$

Substituting figures from the above problem, we have:

$$
\mathrm{R}=\frac{\mathrm{D}}{\mathrm{PT}} \quad \text { where } \quad \begin{aligned}
& \mathrm{R}=\text { unknown annual rate of interest } \\
& \mathrm{P}=\$ 200 \\
& \mathrm{~T}=1 \text { year } \\
& \mathrm{D}=\$ 12
\end{aligned}
$$

$$
\begin{aligned}
& \mathrm{R}=\frac{\$ 12}{\$ 200 \times 1}=.06 \\
& \mathrm{R}=6 \text { percent }
\end{aligned}
$$

## Discount rate

Another way of computing interest is the discount rate. This rate is a percentage of the whole amount borrowed, charged for the time period it will be used, and deducted from the amount actually given to you. In this case, the simple interest is higher than the stated rate, because you do not have use of the entire amount of money. For example, on $\$ 200$ borrowed at a discount rate of 6 percent for one year, the lender discounts or deducts $\$ 12$ at the time of the loan; therefore, the borrower actually receives only $\$ 188$. You can use the
formula for figuring simple interest to find out how much interest you are actually paying with the discount method:

$$
\begin{aligned}
& \mathrm{R}=\frac{\mathrm{D}}{\mathrm{PT}} \quad \text { where } \quad \begin{array}{l}
\mathrm{R}=\text { unknown annual rate of interest } \\
\mathrm{D}=\text { dollar cost of credit }-\$ 12 \\
\mathrm{P}=\text { principal }-\$ 188 \\
\mathrm{~T}=\text { time }-1 \text { year }
\end{array} \\
& \mathrm{R}=\frac{\$ 12}{\$ 188 \times 1}=.064 \\
& \mathrm{R}=6.4 \text { percent }
\end{aligned}
$$

The 6 percent discount rate is therefore equivalent to a true simple interest rate of 6.4 percent a year.

## Dollar charge

In a dollar charge transaction, the credit charge is a stated amount of money and is paid in a lump sum at the end of the loan period. For example, on a $\$ 180$ loan for one year the interest charge is quoted as $\$ 15$. You pay $\$ 195$ at the end of 12 months. You can figure the simple interest as follows:

$$
\begin{aligned}
& \mathrm{R}=\frac{\mathrm{D}}{\mathrm{PT}} \quad \text { where } \quad \begin{array}{l}
\mathrm{R}=\text { unknown annual rate of interest } \\
\mathrm{D}=\text { dollar cost of credit }-\$ 15 \\
\mathrm{P}=\text { principal }-\$ 180 \\
\mathrm{~T}=\text { time }-1 \text { year }
\end{array} \\
& \mathrm{R}=\frac{\$ 15}{\$ 180 \times 1}=.083 \\
& \mathrm{R}=8.3 \text { percent }
\end{aligned}
$$

The $\$ 15$ cost of the loan is equivalent to 8.3 percent simple interest. You have full use of the principal - $\$ 180$ - for one year in this instance.

## Installment payments

A common method of repaying both cash and merchandise types of credit is the installment payment. The calculations required for figuring the true annual rate of interest on installment payments are more difficult than those we have used thus far. This is because the borrower does not keep the entire amount borrowed and repay it and the interest in a lump sum at the end of a year or other specified time period. Instead he makes periodic payments, usually monthly, on both the principal and the interest during the time of the loan.

For example, on a $\$ 200$ washer, you are asked to put 10 percent down and pay the balance in one year. The credit charge for this service is quoted as $\$ 15$. You pay $\$ 20$ down, leaving $\$ 180$ plus $\$ 15$
credit charge or $\$ 195$ to repay in 12 months. This amounts to $\$ 16.25$ a month. So each month you would pay $\$ 15$ on the principal ( $\$ 180$ divided by 12) and $\$ 1.25$ on the interest ( $\$ 15$ divided by 12 ). In this example the interest charge remains constant while the money in use diminishes. The following table will help to clarify this point:

| Month | Actual money in use | Amount you pay monthly for money in use |
| :---: | :---: | :---: |
| 1. | \$180 | \$1.25 |
| 2 | 165 | 1.25 |
| 3. | 150 | 1.25 |
| 4 | 135 | 1.25 |
| 5 | 120 | 1.25 |
| 6 | 105 | 1.25 |
| 7. | 90 | 1.25 |
| 8. | 75 | 1.25 |
| 9 | 60 | 1.25 |
| 10. | 45 | 1.25 |
| 11. | 30 | 1.25 |
| 12. | 15 | 1.25 |
| Average. | $97.50{ }^{\text {a }}$ | . |
| Total interest. |  | 15.00 |

To figure the actual rate of interest you can now use the simple interest formula:

$$
\begin{aligned}
& \mathrm{R}=\frac{\mathrm{D}}{\mathrm{PT}} \quad \text { where } \quad \begin{array}{l}
\mathrm{R}=\text { unknown annual rate of interest } \\
\mathrm{D}=\text { dollar cost of credit }-\$ 15 \\
\mathrm{P}=\text { principal }-\$ 97.50 \text { (average actual } \\
\text { money in use) }
\end{array} \\
& \mathrm{T}=\text { time }-1 \text { year }
\end{aligned} \quad \begin{aligned}
& \$ 15 \\
& \mathrm{R}=\frac{\$ 97.50 \times 1}{\$ 15.4 \text { percent }}=.1538
\end{aligned}
$$

The actual annual interest rate in this case is 15.4 percent. If you had borrowed the $\$ 180$ and paid it back in a lump sum at the end of the year, the true annual interest rate would have been 8.3 percent. But when you repay your loan monthly you do not have the use of $\$ 180$ for the year; instead you have $\$ 97.50$ on the average for the year. Therefore, the true annual interest rate is almost twice as much when you repay a loan monthly rather than in a lump sum at the end of the period.

The simple interest formula could still be used in this example,
because we had figured the average amount of money in use per month. Obviously, it would be a long and complicated task to figure the average actual amount of money in use per month each time you make a purchase on the installment plan. This is not necessary if you use the following formula, which is one of the simplest for figuring the cost of installment credit:

$$
\mathrm{i}=\frac{2 \mathrm{mD}}{\mathrm{P}(\mathrm{n}+1)} \text { where } \quad \begin{aligned}
\mathrm{i} & =\text { unknown annual rate of interest } \\
\mathrm{m} & =\text { number of payments in one year } \\
\mathrm{n} & =\text { number of payments to discharge debt } \\
\mathrm{D} & =\text { charge in dollars (includes all carrying }
\end{aligned}
$$

You will note that the symbols P and D have the same meaning as in the simple interest formula. The symbol m is the number of installment payments in one year. If the debt is repaid monthly, m is 12 ; if weekly, m is 52 . On the other hand, n is the number of payments made to discharge the debt. If the debt must be repaid in 18 monthly payments, n is 18 ; if in 24 monthly payments, n is 24 .

Let us suppose that you want to buy a refrigerator costing $\$ 300$ and that you will pay for it in monthly payments over a two-year period. The credit charge is $\$ 50$. What rate of interest will you be paying?

$$
\begin{aligned}
& \mathrm{i}=\text { unknown annual rate of interest } \\
& \mathrm{m}=\text { number of payments in one year }-12 \\
& \mathrm{n}=\text { number of payments to discharge } \\
& \text { debt-24 } \\
& \mathrm{D}=\text { charge in dollars }-\$ 50 \\
& \mathrm{P}=\text { principal }-\$ 300 \\
& \mathrm{i}=\frac{2 \times 12 \times \$ 50}{\$ 300 \times 25}=\frac{1200}{7500}=.16 \\
& \mathrm{i}=16 \text { percent }
\end{aligned}
$$

## COMPARING CREDIT COSTS

The formula for figuring interest on installment payments has been used in the following examples to illustrate the cost of credit from three different sources for an automatic washer and from four different sources for an automobile. (The figures in the examples are used only for illustrative purposes. When you purchase in your local community you need to check with each source of credit, since rates vary from store to store as well as from one bank to another.)

## Credit costs for an automatic washer

You want to purchase an automatic washer at a cost of $\$ 200$ and will need $\$ 180$ credit for one year. (It is assumed that you have the $\$ 20$ required for the down payment.) Where should you go to get this credit?

Store. At the store you are quoted monthly payments of $\$ 16.25$. This amounts to a total payment of $\$ 195(\$ 16.25 \times 12)$. Since you borrow only $\$ 180$, the remaining $\$ 15$ is the credit charge. To figure the annual rate of interest, you use the above formula as it is.

$$
\begin{aligned}
& \mathrm{i}=\text { unknown annual rate of interest } \\
& \mathrm{i}=\frac{2 \mathrm{mD}}{\mathrm{P}(\mathrm{n}+1)} \quad \text { where } \quad \begin{aligned}
\mathrm{m} & =\text { number of payments in one year }-12 \\
\mathrm{n} & =\begin{array}{l}
\text { number of payments to discharge } \\
\text { debt }-12
\end{array}
\end{aligned} \\
& \mathrm{D}=\text { charge in dollars }-\$ 15 \\
& \mathrm{P}=\text { principal }-\$ 180 \\
& \mathrm{i}=\frac{2 \times 12 \times \$ 15}{\$ 180 \times 13}=\frac{360}{2340}=.1538 \\
& \mathrm{i}=15.4 \text { percent }
\end{aligned}
$$

Small loan company. You could borrow the money and pay cash. A small loan company offers a rate of 3 percent per month on the unpaid balance. To find the annual rate of interest, $i$, you need to multiply the monthly rate, 3 percent, by 12 ; i is therefore 36 percent. Then to find the charge in dollars when the annual interest rate is known, the formula can be changed as follows:

$$
\begin{aligned}
& \mathrm{D}=\text { unknown charge in dollars } \\
& \mathrm{iP}(\mathrm{n}+1) \quad \mathrm{i}=36 \text { percent or } .36 \\
& \mathrm{D}=\frac{\mathrm{iP}(\mathrm{n}+1)}{2 \mathrm{~m}} \quad \text { where } \quad \begin{aligned}
\mathrm{i} & =36 \text { percent or } .36 \\
\mathrm{~m} & =\text { number of payments in one year }-12
\end{aligned} \\
& \mathrm{n}=\text { number of payments to discharge } \\
& \text { debt-12 } \\
& \mathrm{P}=\text { principal }-\$ 180 \\
& \mathrm{D}=\frac{.36 \times \$ 180 \times 13}{24}=\frac{\$ 842.40}{24}=\$ 35.10 \\
& D=\$ 35.10 \text { annual charge }
\end{aligned}
$$

Bank. You can borrow the money from a bank at a 6 percent discount rate with an added $\$ 2$ fee for investigation. To have $\$ 180$ to use for one year, you must borrow $\$ 194$ since in a discount transaction the interest ( $\$ 11.64$ in this case) is subtracted before the money is given to you, and you also need $\$ 2$ for the investigation fee. If you borrow $\$ 194$ from the bank, minus $\$ 13.64$ for the discount cost and investigation fee, you actually receive $\$ 180.36$ to be paid back in
monthly payments. Use the original formula to find the annual rate of interest that you would pay.

$$
\left.\begin{array}{l}
\mathrm{i}=\frac{2 \mathrm{mD}}{\mathrm{P}(\mathrm{n}+1)} \quad \text { where } \quad \begin{array}{rl}
\mathrm{m} & =\text { number of payments in one year }-12 \\
\mathrm{n} & =\text { number of payments to discharge } \\
\text { debt }-12
\end{array} \\
\mathrm{D}=\text { charge in dollars }-\$ 13.64 \\
\mathrm{P}=\text { principal }-\$ 180.36
\end{array}\right\} \begin{aligned}
\mathrm{i} & =\frac{2 \times 12 \times \$ 13.64}{\$ 180.36 \times 13}=\frac{327.36}{2344.68}=.1396 \text { or } .14
\end{aligned} \mathrm{i}=14 \text { percent } \mathrm{i}
$$

Three costs compared. Now to help decide which is the best source of credit, you can arrange the costs and interest rates in tabular form.

| Source of credit | Annual interest rate | Dollar cost per year |
| :---: | :---: | :---: |
| Store . | 15.4\% | \$15.00 |
| Small loan co.. | 36.0 | 35.10 |
| Bank. | 14.0 | 13.64 |

## Credit costs for an automobile

You want to buy a new automobile and will need $\$ 1,500$ credit for 24 months. (It is assumed that you can make a down payment of onethird of the total cost.) Where should you go to get this credit?

Dealer arranges through bank. The automobile salesman suggests that the dealer can finance the $\$ 1,500$ for you through a local bank. He says that this loan will cost you "about 5 percent" interest, and you will make your 24 monthly payments directly to the bank. The monthly payments will be $\$ 69.73$. This amounts to a total repayment of $\$ 1,673.52(\$ 69.73 \times 24)$. Since you borrow only $\$ 1,500$, the remaining $\$ 173.52$ is the credit charge. To figure the annual rate of interest, i , you use the formula as is.

$$
\begin{aligned}
& \mathrm{i}=\text { unknown annual rate of interest } \\
& 2 \mathrm{mD} \quad \mathrm{~m}=\text { number of payments in one year }-12 \\
& \mathrm{n}=\text { number of payments to discharge } \\
& \text { debt-24 } \\
& \mathrm{D}=\text { charge in dollars }-\$ 173.52 \\
& \mathrm{P}=\text { principal }-\$ 1,500 \\
& \mathrm{i}=\frac{2 \times 12 \times \$ 173.52}{\$ 1,500 \times 25}=\frac{4164.48}{37,500}=.1111 \\
& \mathrm{i}=11.1 \text { percent }
\end{aligned}
$$

Automobile loan agency. The same salesman also tells you that, if you prefer, you can finance the car through the dealer's automobile loan agency. For this type of transaction, he quotes you a monthly payment figure of $\$ 70.57$ for 24 months. This would be a total repayment of $\$ 1,693.68(\$ 70.57 \times 24)$. Since you again would borrow only $\$ 1,500$, the remaining $\$ 193.68$ is the credit charge. Using the formula, you figure the interest:

$$
\begin{aligned}
& \mathrm{i}=\text { unknown annual rate of interest } \\
& \mathrm{i}=\frac{2 \mathrm{mD}}{\mathrm{P}(\mathrm{n}+1)} \quad \text { where } \quad \begin{aligned}
\mathrm{m} & =\begin{array}{l}
\text { number of payments in one year }-12 \\
\mathrm{n}
\end{array}=\begin{array}{l}
\text { number of payments to discharge } \\
\text { debt }-24
\end{array}
\end{aligned} \\
& \mathrm{D}=\text { charge in dollars }-\$ 193.68 \\
& \mathrm{P}=\text { principal }-\$ 1,500 \\
& \mathrm{i}=\frac{2 \times 12 \times \$ 193.68}{\$ 1,500 \times 25}=\frac{4648.32}{37,500}=.1240 \\
& \mathrm{i}=12.4 \text { percent }
\end{aligned}
$$

Directly from bank. You could borrow the $\$ 1,500$ from a bank and pay cash. A local bank offers you monthly payments of $\$ 68.75$ for 24 months. This amounts to a total repayment of $\$ 1,650(\$ 68.75 \times$ 24 ), making the credit charge $\$ 150$. Applying the formula, you get these figures:

$$
\begin{aligned}
& \mathrm{i}=\frac{2 \mathrm{mD}}{\mathrm{P}(\mathrm{n}+1)} \quad \text { where } \quad \begin{aligned}
\mathrm{m} & =\text { number of payments in one year }-12 \\
\mathrm{n} & =\begin{array}{l}
\text { number of payments to discharge } \\
\text { debt }-24
\end{array}
\end{aligned} \\
& \mathrm{D}=\text { charge in dollars }-\$ 150 \\
& \mathrm{P}=\text { principal }-\$ 1,500 \\
& \mathrm{i}=\frac{2 \times 12 \times \$ 150}{\$ 1,500 \times 25}=\frac{3,600}{37,500}=.0960 \\
& \mathrm{i}=9.6 \text { percent }
\end{aligned}
$$

Finance company. You could borrow the money from a finance company, where you are quoted monthly payments of $\$ 76.43$ for 24

Charges by Four Sources of Credit for an Automobile

| Source of credit | Monthly payment | Annual interest rate, percent | Cost for 2-year period |
| :---: | :---: | :---: | :---: |
| Bank through automobile dealer | \$69.73 | 11.1 | \$173.52 |
| Automobile agency. | 70.57 | 12.4 | 193.68 |
| Bank. | 68.75 | 9.6 | 150.00 |
| Finance company | 76.43 | 21.4 | 334.32 |

months. These amount to a total repayment of $\$ 1,834.32$ ( $\$ 76.43 \times$ 24). Subtracting $\$ 1,500$, the amount of your loan, you have a credit charge of $\$ 334.32$. The interest rate works out as follows:
$\mathrm{i}=$ unknown annual rate of interest
i $2 \mathrm{mD} \quad \mathrm{m}=$ number of payments in one year -12
$\mathrm{n}=$ number of payments to discharge
debt-24
$\mathrm{D}=$ charge in dollars $-\$ 334.32$
$\mathrm{P}=$ principal $-\$ 1,500$
$\mathrm{i}=\frac{2 \times 12 \times \$ 334.32}{\$ 1,500 \times 25}=\frac{8,023.68}{37,500}=.2140$
$\mathrm{i}=21.4$ percent
Comparing costs. For the sake of easy comparison, the charges made by the four credit sources have been tabulated on page 14. It should be pointed out that the cost of each source of credit included a charge for a life insurance policy that would pay the loan in the event of the borrower's death.

For those who feel that the preceding formulas are too complicated, the table, "What You Pay for Credit," is given below. Armed with the information in this table, as well as on the preceding pages, you should be able to compare the true cost of loans from various sources.

What You Pay for Credit

| If interest is added to purchase price and the total is repaid in 12 monthly payments |  | If interest is charged "only on the unpaid balance" |  |
| :---: | :---: | :---: | :---: |
| When they say: | You pay an annual rate of: | When they say: | You pay an annual rate of: |
| 4\% per year | 7.3\% | $3 / 4$ of $1 \%$ per month. | 9\% |
| 6\% per year. | . $10.9 \%$ | $5 / 6$ of $1 \%$ per month. | 10\% |
| 8\% per year. | . $14.5 \%$ | $1 \%$ per month...... | . $12 \%$ |
| 10\% per year. | . $18.0 \%$ | $11 / 4 \%$ per month | 15\% |
| 1\% per month | . $21.5 \%$ | $11 / 2 \%$ per month | 18\% |
|  |  | 2\% per month.. | 24\% |
|  |  | $21 / 2 \%$ per month. | .. 30\% |
|  |  | 3\% per month.. | ... 36\% |

## ADVANTAGES OF USING CREDIT

The fact that more families make use of more credit every year indicates that they find advantages in its use. Credit may be used as a convenience, to establish a credit rating, to meet emergencies, to consolidate debts, to take advantage of bargains, to get better service on equipment, or to obtain the use of an article earlier than would otherwise be possible. Prudent persons are able to make wise use of credit.

## Convenience

Most families find it convenient to use some form of credit. For example, it is easier to pay for the home-delivered newspaper or milk by the week or month than by the day. It is often more convenient to pay for a series of office calls at the doctor's or dentist's once a month rather than after each visit. Some families feel it is convenient to use an oil company credit card to charge goods and services at their local gasoline service station. They also find it safer to use a credit card on automobile trips than to carry cash for automobile expense or emergency.

By having charge accounts, it is not necessary to carry large amounts of cash or to write checks for individual purchases. Many families find it convenient to pay all of their credit obligations at one time.

## Establish good credit standing

One reason that families give most often for using credit is that they want a good credit standing. When you open a charge account or take out an installment contract, you are establishing a credit rating. If there is a Credit Bureau in the community, a record of whether your account is cleared "on time," in a "satisfactory" manner, or " 30 days late" will be filed. Of course your individual creditors will have such records in their files for referral when you wish to use them as references.

Good credit standing is especially important to families, since emergencies may arise when credit is needed. Unless your credit rating is established, you may not be able to get credit readily when you need it most.

## Consolidate debts

It may be to the family's advantage to consolidate several installment accounts, thus saving money on interest charges. This may often
be done by taking out further credit - for example, in the form of a bank loan. The interest charge for the bank loan is generally less than the carrying charges on installment purchases.

## Take advantage of bargains

Families sometimes find that when credit is available they can take advantage of special bargains and sales. These purchases are bargains when the item is needed or is planned for in the family's financial program.

## Better service on equipment

Another reason families often give for the use of credit is that they believe they receive better service on equipment. This is especially true when equipment is purchased on the installment plan. The dealer can be expected to keep the article in good repair, since he usually holds the title until the item is paid in full. In addition, the credit customer is often a repeat customer, so dealers are especially interested in keeping credit customers satisfied.

## Earlier use of article

When a family uses credit, it can have the use of the article while paying for it. This is of major importance for young couples just establishing homes.

## DISADVANTAGES OF USING CREDIT

## Costs money

Credit costs money. Families can get more goods and services for their money if they save for purchases and pay cash rather than buying on credit. In addition, the savings can be earning interest until the purchase is made.

## Overbuying

Charge account holders (as well as installment plan buyers) sometimes tend to overbuy or buy on impulse when not faced with the immediate problem of paying cash.

## Merchandise costs more

Since charge accounts increase the store's cost of doing business, some merchandise may cost more in any store which offers charge accounts. This added cost is in lieu of a charge on the account itself.

## Mortgages the future income

Signing an installment or credit contract mortgages the future income of the family. This can create "debt worries" if too many goods are purchased at one time.

## Hidden cost

The cost of credit is often hidden. Persons can overcome this disadvantage by investigating the cost of credit thoroughly before they buy. Although persons would not pay cash for an article without knowing its complete cost, they often neglect to ask the cost when they are buying it on credit.

## YOUR FAMILY'S USE OF CREDIT

Good financial management often includes the wise use of credit. Although credit can be a valuable tool when used wisely, it can be destructive when used unwisely.

The use of credit can be constructive when it will advance the long-term goals of the family, when the goods purchased on credit give enough satisfaction to compensate for the adjustments necessary to repay the debt, and when the family deems it more sensible to use credit than to save and pay cash later. By using credit, the family can buy such items as equipment and furnishings when the needs for such items are greatest.

Each family must decide for itself whether the use of credit should be included in its financial management. The amount of credit you can use safely will depend on your current income as well as your income prospects, your current fixed expenditures, the size of your family, your family's stage in the family life cycle, and the thrift habits of family members. Since these factors vary from family to family, there is no "rule" that can be set for your family's use of credit.

A word of final advice to you and your family when using credit always find the true cost (both in terms of interest rate and dollar cost) of credit to you.

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