

10/21/19

## 4.1 Intro. to Consumer Credit

Credit: using another persons/  
business money with an  
interest rate to pay back.

debtors: people who use credit

Creditors: organization or people  
that offer credit to  
consumers.

# Check before extending credit

1.) Assets: everything you own, home, car, bank accounts.

2.) Earning power: ability to earn money now & in the future.

3.) Credit rating: "report card" of payments (timely) to credit agencies.

Credit agency: Compiles all records on all users of credit.

1.) Experian  
2.) Equifax

3.) Trans-union

\$ 100,000  
loan 4%

financial invest 5%  
20% down

full

\$ 100,000  
↑ 2%  
per year

\$ 100,200  
↑

\$ 20,000

\$ 80,000  
X .05

\$ 4000.00

tax  
brak  
↓ 1%

3%

5-3 = 2%

\$ 2400 ↑

\$ 1000  
taxes

\$ 3400  
200

appreciat

\$ 3600

# FICO: based 3 criteria

- 1.) checking/saving accounts
- 2.) pay bills on time
- 3.) successfully handle all credit transactions.

Scores: 300 - 850, <sup>2020</sup>  
580 \$ 165,000

(low) Good 700 - 765  
Excellent 770 above  
(lower) 3-4%

813 \$ 45,000

• Installment Plan: paying over a period of time.

Down Payment: % down at time of purchase.

• Interest: % cost of borrowing money.



Ex 3

$$\begin{array}{r} \$2134 \\ -100 \\ \hline \end{array}$$

\$20 min. / 5 months

\$2034

Ex 4

720

5.2%

560

5.2 + 3

8.2%

pgs. 178-179

#2-4; 6-8; 12; 13

10/23/19 4.2 Loans

promissory note: agreement to borrow money.

principal: amount you borrow.

Annual rate (APR) % : interest you pay per year.

Terms: length of the loan



# Truth in Lending Act:

• information creditors are required to share (disclosures)

1) principal

2) APR

3) monthly payment

4) # of payments (months)  
years

5.) fee for late payment

6.) finance charge

7) due date each month

• Cosigner: person agrees to pay back the loan if the borrower defaults.

Life Insurance: insurance that cover the loan if the borrower dies.

• Prepayment Privilege: borrower make payments b/4 they are due to reduce the amount of interest.

Prepayment Penalty: borrower pays a fee if they pay off early.

# Wage Assignment: Voluntary deduction

- 1.) pay off debt.
- 2.) mortgage
- 3.) student loans
- 4.) Savings / money market investment account

> Automatic deduction

free

# Wage Garnishment: forced deduction

- 1) Right out of your payment
  - IRS
  - Federal Loans
  - Child Support
  - Default mortgage

\* Court ordered →

• Balloon Payment: last payment  
generally larger than all the  
rest.

Lending Institutions: extend  
loans for  
profit.

1) Banks

2) Credit Unions

3) Consumer finance companies  
(low credit scores)

4) Life insurance companies

5) Pawn Shops

## • Equal Credit Opportunity Act:

→ Requires a creditor to treat you fairly.

## • Fair Credit Reporting Act:

Lender must give the reason in writing for a loan denial.

Hwk: Table pg. 183

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#2-7, 9, 10



## 10/25/19 4.3 Loan Calculation & Regression

Monthly  
payment  
calculators  
(on internet)

payment calculations  
over a period of the  
loan life.

$$M: \frac{P \left( \frac{r}{12} \right) \left( 1 + \frac{r}{12} \right)^{12t}}{\left( \left( 1 + \frac{r}{12} \right)^{12t} - 1 \right)}$$

monthly payment

ie1 5yr. 10,000 @ 6% APR

$$m = \frac{10,000 \left( \frac{.06}{12} \right) \left( 1 + \frac{.06}{12} \right)^{12 \cdot 5}}{\left( \left( 1 + \frac{.06}{12} \right)^{12 \cdot 5} - 1 \right)}$$

$$m = \$193.33 \text{ per month}$$

total payments

$$193.33 \times 60$$
$$\$11,599.80$$

# Loan Length Formula:

$$t = \frac{\ln\left(\frac{m}{p}\right) - \left(\ln\left(\frac{m}{p} - \frac{r}{12}\right)\right)}{12 \ln\left(1 + \frac{r}{12}\right)}$$

ex1 \$ 25,000 5.9% <sup>pay</sup> \$ 300 month  
t = ?

$$t = \frac{\ln\left(\frac{300}{25000}\right) - \left(\ln\left(\frac{300}{25000} - \frac{.059}{12}\right)\right)}{12 \cdot \ln\left(1 + \frac{.059}{12}\right)}$$

$$t = 8.9 \Rightarrow \text{9 yrs}$$



$$\ln\left(\frac{300}{21000}\right) - \ln\left(\frac{300}{25000} - \frac{.059}{12}\right)$$

$$\begin{array}{r} -4.42 \quad + \quad (+4.95) \quad \frac{0.53}{0.058} \\ \hline \end{array}$$

$$0.058$$

$$0.058$$

9 yrs

$$= 9.13$$

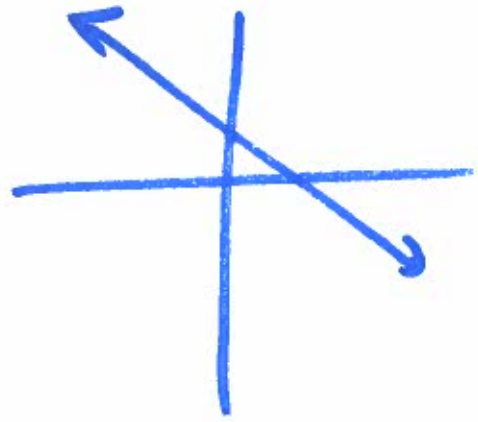
$$0.52716$$

$$\frac{0.52716}{0.0588}$$

$$= 8.9$$

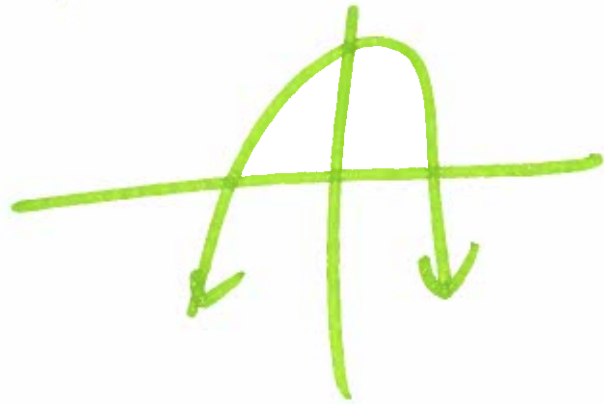
Linear Regression:

$$y = mx + B$$



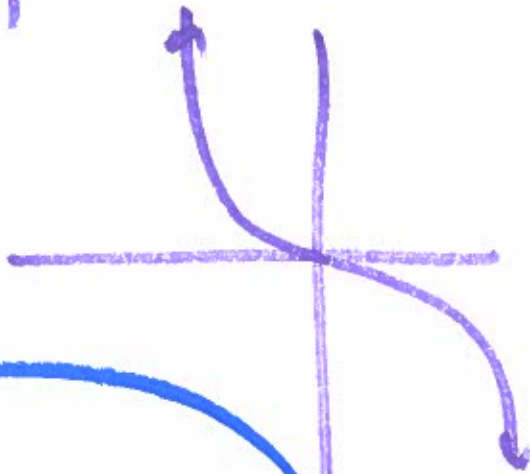
Quadratic Regression

$$y = -x^2$$



Cubic regression

$$y = -x^3$$



Assign

pg. 191

#2-5, 7, 8

10/29/19

## 4.4 Credit Cards

Credit card: plastic card introduced in 1950's that entitles its holder to ~~buy~~ make purchases & pay for them later.

Impulse Buying: purchase something to which you are suddenly attracted to it & had no intention on buying it.

Credit card advantages:

- 1) Do not have to carry cash
- 2) Help FICO if paid on time
- 3) Written record of all purchases
- 4) Rewards: miles, \$ prizes



customer

\$ 20

business

visa 3%

= Business  
60¢

made \$19.40  
haircut

visa

60¢

customer 17.0¢ ← Rebate  
6¢

\$ 20 credit card ~~20%~~ interest  
pay in full 1970

Revolving charge account:

entire bill does NOT need to be paid off each month

Visa  
Mastercard

→ Minimum monthly payment  
→ finance charge (interest rate accruing on all balance)

Charge card:

monthly bill is paid in full each month

Diners Club, American Express

\$4000.00 each month  
x .05

\$200.00



• Truth-in-Lending: protects you if your credit card is lost/stolen.

\* Must notify your credit company ASAP after lost/stolen

• Fair Credit Billing Act: protects you against errors on your bill.

(→ ASAP notify credit card company)

• Debit Card: not credit or charge card, acts like an electronic check out of your bank account.

# Electronic Funds Transfer Act:

protects debit card users  
against unauthorized use,  
but must report it missing first

Average Daily Balance: average  
you owe each day of  
the billing period.

Ex1 before 0

Ex2 APR 21.6%

$$\sqrt{21.6} = 1.8\%$$

Ex3

7.° 456.11	= 3192.77
<u>3.° 1177.60</u>	= 3532.80
<u>6.° 990.08</u>	= 5940.48
<u>9.° 2115.15</u>	= 19,086.35
<u>5.° 2309.13</u>	= 11,545.65

30day 30 | 9 43,248.05

1,441.60  
.018

\$ 1,441.60  
ave. daily balance

\$ 25.95 interest



10/31/19

4.5

# CREDIT CARD STATEMENTS

Billing cycle: predetermined amount of time set by the card company.

Credit card Statement: all credits <sup>← payments</sup> & debits <sup>← charges</sup> sent to you by card company

Account #: each customer has own number.

Credit line: max. you can owe.

Available credit: difference b/t max - amount you owe.

Billing Date: date statement was generated

• Payment due date:

DO NOT be late

Transactions: purchase ; payments

• Late charge: \$ fee, interest go up,  
Credit score goes down

Finance charge: cost (%) of using credit.

• Number of days in billing cycle:  
(days covered in current bill)

# Ex 1 New purchases debits

$$\begin{aligned} &\text{Previous - payment} + \text{new purchases} \\ &+ \text{finance charge (7\%)} + \text{late fee} = \underline{\underline{\text{total balance}}} \end{aligned}$$

# Ex 2

$$\begin{array}{r} \$15,000 \\ - 1,992.45 \\ \hline \$13,007.55 \\ \text{credit left} \\ \underline{\underline{\text{unused}}} \end{array} \quad \begin{array}{r} - 4,598.12 \\ - 4,000.00 \text{ payment} \\ + 1,268.56 \\ + 20.00 \\ + 5.78 \\ \hline \$1,992.45 \end{array}$$

\$ 1748.00  
800.00  
9.15  
19.00

payment  
\$ 100

call  
ACAP

\$ 2576.15

\$ 2476.15

Writing within 60 days  
from statement date

pgs. 204-205  
#2-11; 14



11/4/19 : 4.6 Average Daily  
Balance

Average daily  
balance:

charge based on  
the average amount the  
consumer owed each  
day of the billing cycle.

Credit  
calendar: billing calendar

Billing date: corner section of  
the last day on  
calendar.

Ex 1 (AVD) \$ 470 monthly rate 1.5%

$$\begin{array}{r} \$ 470 \\ \times .015 \\ \hline \end{array}$$

\$ 7.05 Finance charge

pg. 209  
#2-7