

# Discussion: Making Sense of Soft Information

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# What is Soft Information?

- Easy-to-Verify Information (Hard Information):
  - **Credit Scores:** In the bottom 20% of credit scores
  - **Income:** 100K household income
  - **Employment:** Recent job loss
  - **Past Relationships:** Taken out loans with bank in the past
  - **Past Outcomes:** Defaulted on my recent loan last year
- Soft Information:
  - ???

# Research Summary

## How do cognitive constraints impede a loan officer's ability to process soft information?

- **Motivation:** Soft information is valuable, yet depends on loan officer comprehension
- **Methodology:** Examines the outcomes of soft-information loans when the officer is constrained
  - Identifies soft information loans using employees' notes on each application
  - Measures cognitive constraints using four measures:
    - limited attention (distraction): busy, near weekends/holidays
    - task-specific human capital: previous non-banking experience
    - peer perception: same gender between borrower/lender
    - learning over the credit cycle: credit expansions
- **Result:** Soft information loans lead to worse outcomes (charge-offs, delinquencies, default, credit score decline) when loan officers face cognitive constraints
- **Implication:** The use of soft-information may lead to non-agency related costs

# Outline

- 1 Suggestion I: Change your Focus
- 2 Suggestion II: Exploit your Data
- 3 Suggestion III: Answer a Larger Question

# Suggestion I: Change your Focus

$$\text{Ex-Post Lending Outcomes} = \alpha + \beta \underbrace{\text{Soft Information}}_{\text{Paper's Secondary Focus}} \times \underbrace{\text{Cognitive Constraint}}_{\text{Paper's Primary Focus}} + \text{Controls} + \varepsilon$$

- Paper Develops Two Soft Information Measures

- Measure I: Soft Keywords/Total Keywords

- Social, education, professional, personal
- Loan officer's feelings/judgements

- Measure II: Residual word count

- Controlling for Applicant Hard Information
- Employee/Loan Type/Year Fixed Effects

- $\text{Corr}(\text{Measure I, Measure II}) = 0.15$

- Suggestion I: Place your Focus on the Soft Information Measure, not the Cognitive Constraint Measure

## Suggestion II: Exploit your Data

- **Data Source: Loan Officer Lending Notes at a Major Credit Union**
  - When loan officer deviate from formal guidelines, they are required to document the rationale behind the credit decision
  - no guidelines on the type of information
  - the system is now widely used by all employees to document interactions with customers
- **Data Sample:** High credit risk borrowers (borrowers with a credit score below 640)
  - 119,625 Loans to 59,453 unique borrowers
  - Final Sample: 49,680 loans to 31,601 borrowers
- **Suggestion II: Exploit your data, by evaluating the scope and value of soft information along several dimensions**

# Examples of Loan Officer Notes I

- **Death**

- She is so caring as she took care of her terminally ill husband until he passed and her passion for people is evident in that she has worked in day care for 40 years!

- **Illness**

- “M. called - he is in a bind - his daughter had some medical problems, and he switched insurance companies, but because she had a pre-existing condition, they didn't cover it, so he has a large medical bill to pay.+...M. has always been faithful to [the credit union], and does everything with us, and has been a member for over 5 years. I am not super excited about adding unsecured debt, but I am going to help him out with this today.”

# Examples of Loan Officer Notes II

- **Divorce:**

- Her husband had drained her accounts and they had just begun divorce - she needed money to pay her attorney & support herself and daughter at the time. [The credit union] took a chance and P. is soooooooooo thankful - she paid off that loan, her [loans] today and is now going to buy a 2008-09 Subaru Outback or Legacy, paying 10K and doing a loan for the rest. and here's the best part.....for 10 years, before having kids, P. was a NUN! How about that.

- **Alcohol/Drugs Issues:**

- Her husband has a drinking problem is he is a recovering alcoholic and he has been clean now for about 4 years. Her husband has been to recovery a number of times as this will be his fourth relapse. He ended up taking the new truck that he had purchased in the ditch while he was drinking and member and the kids were on a short summer vacation.



# Examples of Loan Officer Notes III

- **Religion**

- The church that D. works at just gave her and the other music director a bonus!

- **Personal Trust**

- “P. has hit hard times. She is really struggling and came to [the credit union] because W.F. basically told her she didn’t matter. She has filed bankruptcy, but it has been discharged. She has also had her car repossessed and her rental car has to be turned in by 4:00 today. Her son is graduating from the military tomorrow in CA, she needs to get there to see him. ... I went out on a limb on this one but I feel that I trust her and want to help her.”

- **Character**

- P. works with the State of [ ] working with foster care situations where abuse is happening - she travels throughout northern [ ] and primarily stays in G.R. when up north. She stays at the S. Inn and has a specific room that she stays in every time - they know her there and she is a regular at a number of places. She has been doing this for 20 years.

## Suggestion III: Answer a Larger Question

- **Current Question:** How do cognitive constraints impede a loan officer's ability to process soft information?
- **Alternative Larger Questions:**
  - What exactly is soft-information?
  - Why is soft-information valuable?
  - What do personal hardships signal about borrower quality?
  - How do banks measure a borrower's financial integrity when information is limited?
  - Does soft information depend on credit supply and demand?
  - Is interpreting soft information a learned skill?
- **Suggestion III: Answer a larger question by digging into the detailed loan officer notes**