



CZECH BANK LOAN ANALYSIS

INTRODUCTION

- Czech Bank has been experiencing loss due to bad debts. The bank manager only has a vague idea of who is a good client (whom to offer some additional services) and who is a bad client (whom to watch carefully to minimize the bank losses).
- Fortunately, the Bank stores data about their clients, the accounts (transactions between several months), the loans already granted, the credit cards issued.

OBJECTIVE

Profile and describe a typical loan defaulter (Contract finished, loan not paid or Contract running, client in debt) using their:

Demographic attributes (e.g. Gender, Age band, Region, Average salary) and

Transactional attributes (e.g. Type of card, duration of the loan, mode of transaction, type of transaction, Account Ownership, Frequency of payment issuances, number of payments, and balance before defaulting)

METHODOLOGY

Performed a detailed business requirement and data understanding.

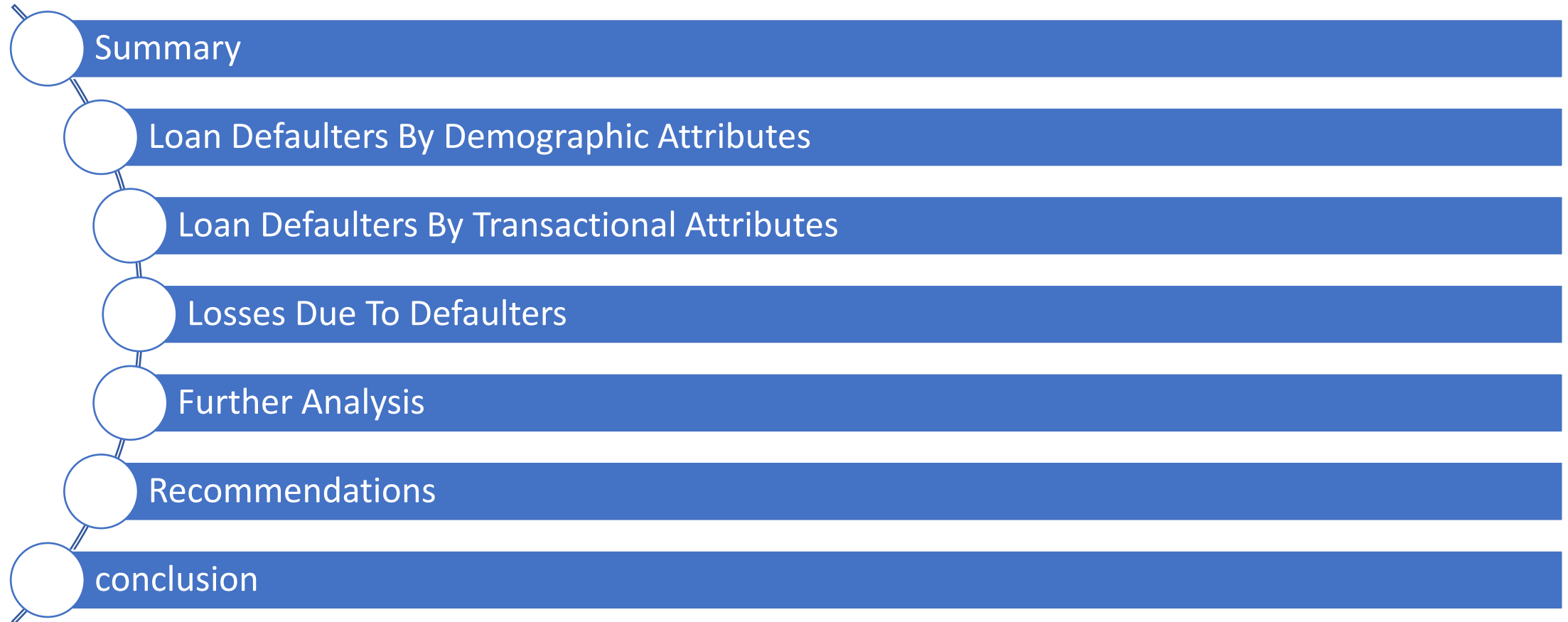
Download the datasets in the data_berka.zip folder.

Using Power BI, created relationships using the entity-relationship diagram and data dictionary attached.

Transform and decode the data including data exploration, cleansing and manipulation using Power BI.

Power BI is used for all analysis and visualizations.

REPORT CONTENT



SUMMARY OF CZECH BANK LOAN SITUATION

5369

Count of client_id

682

Count of loan_id

103.3MKč

Loan Amount

Total Default Loan Amount

Loan Status	Loan Amount
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Loan not Payed	4,362,348.0 Kč
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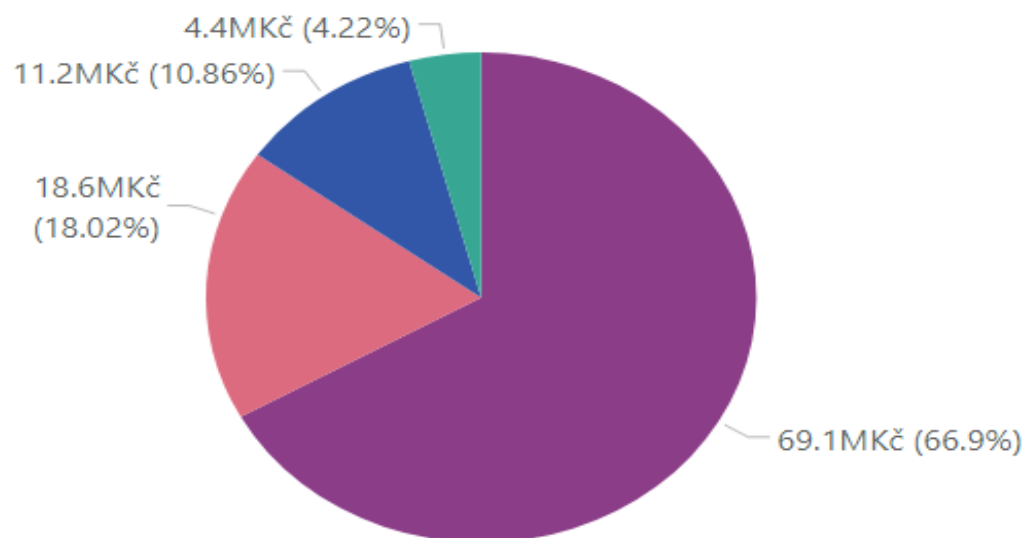
Client in Debt	11,217,804.0 Kč
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Total	15,580,152.0 Kč
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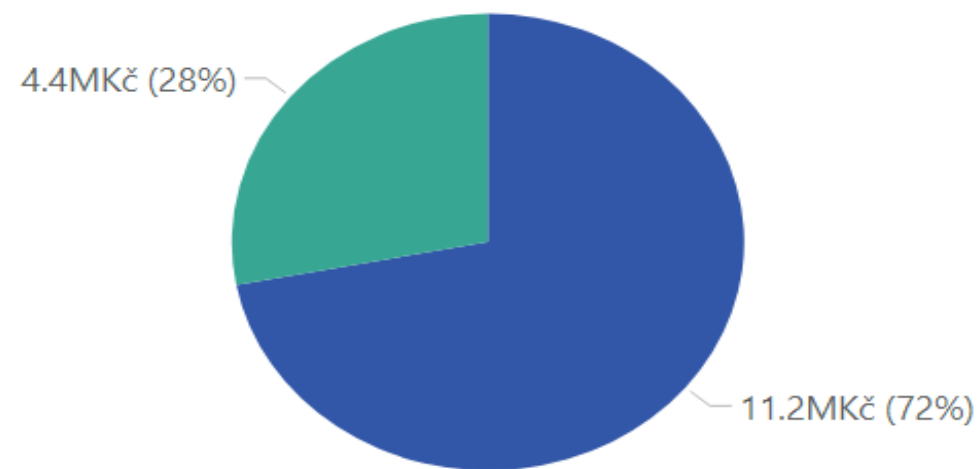
Total Loan Status


Loan Status ● Contract Running ● Payment on Ti... ● Client in Debt ● Loan not Pa...



Total % Default Loan Amount

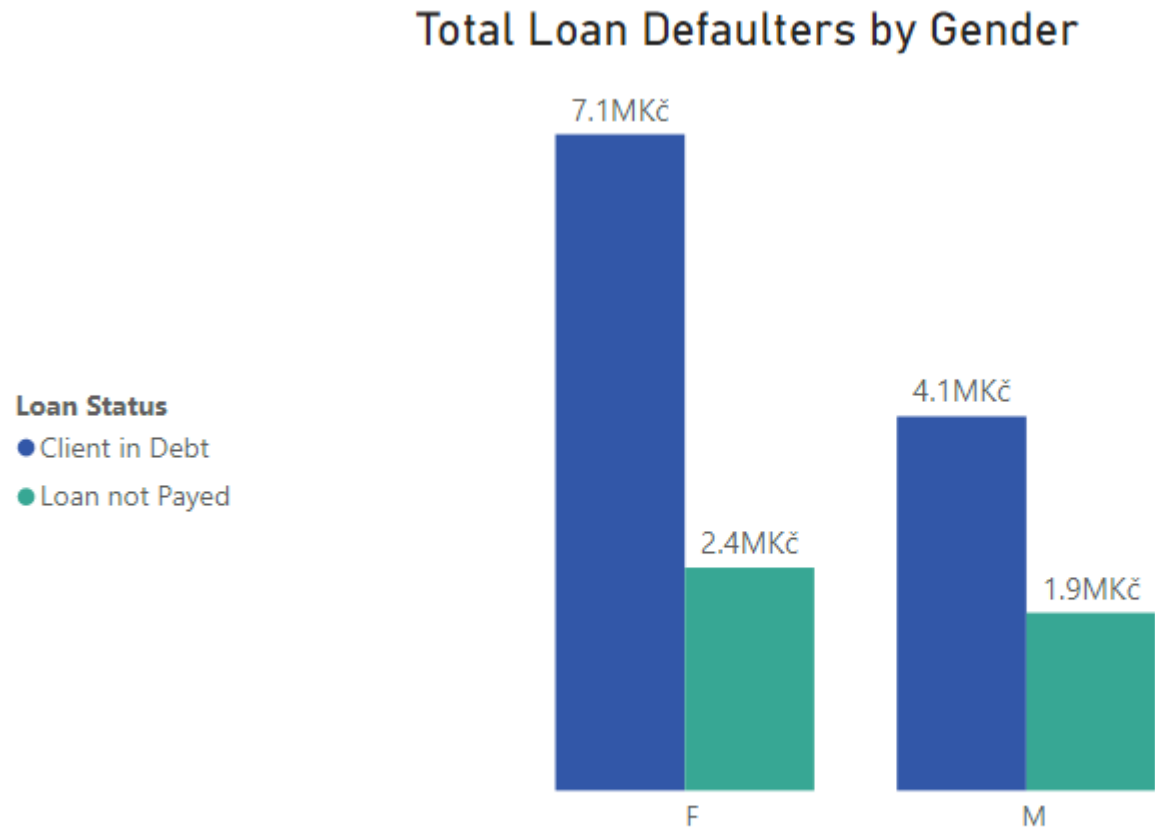
Loan Status ● Client in Debt ● Loan not Payed



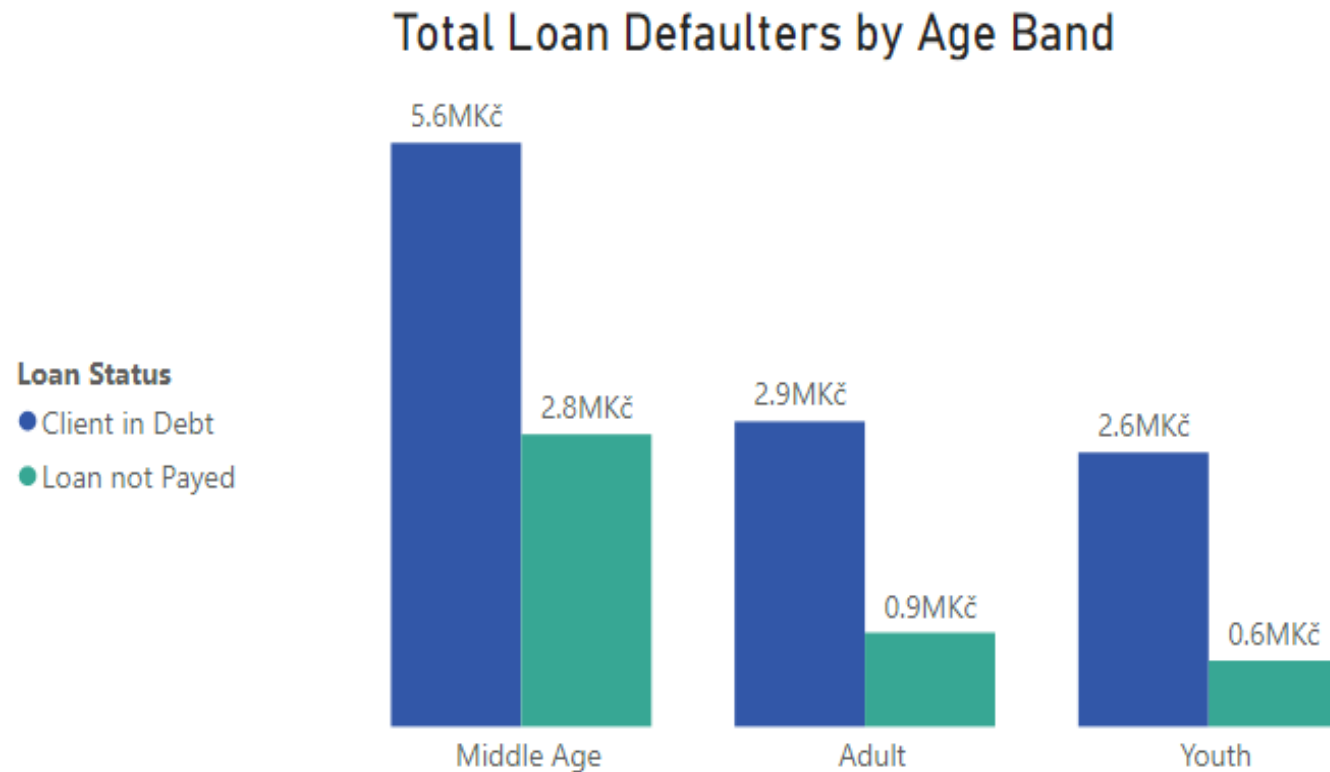
A stylized illustration of a diverse crowd of people walking in various directions. The figures are rendered in a flat, modern style with a limited color palette of blues, oranges, yellows, and teals. They are dressed in casual to business-casual attire, including jackets, sweaters, and trousers. The background is a light blue gradient. The illustration is partially obscured by a dark grey curved shape on the right side of the slide.

LOAN DEFAULTERS BY DEMOGRAPHICS

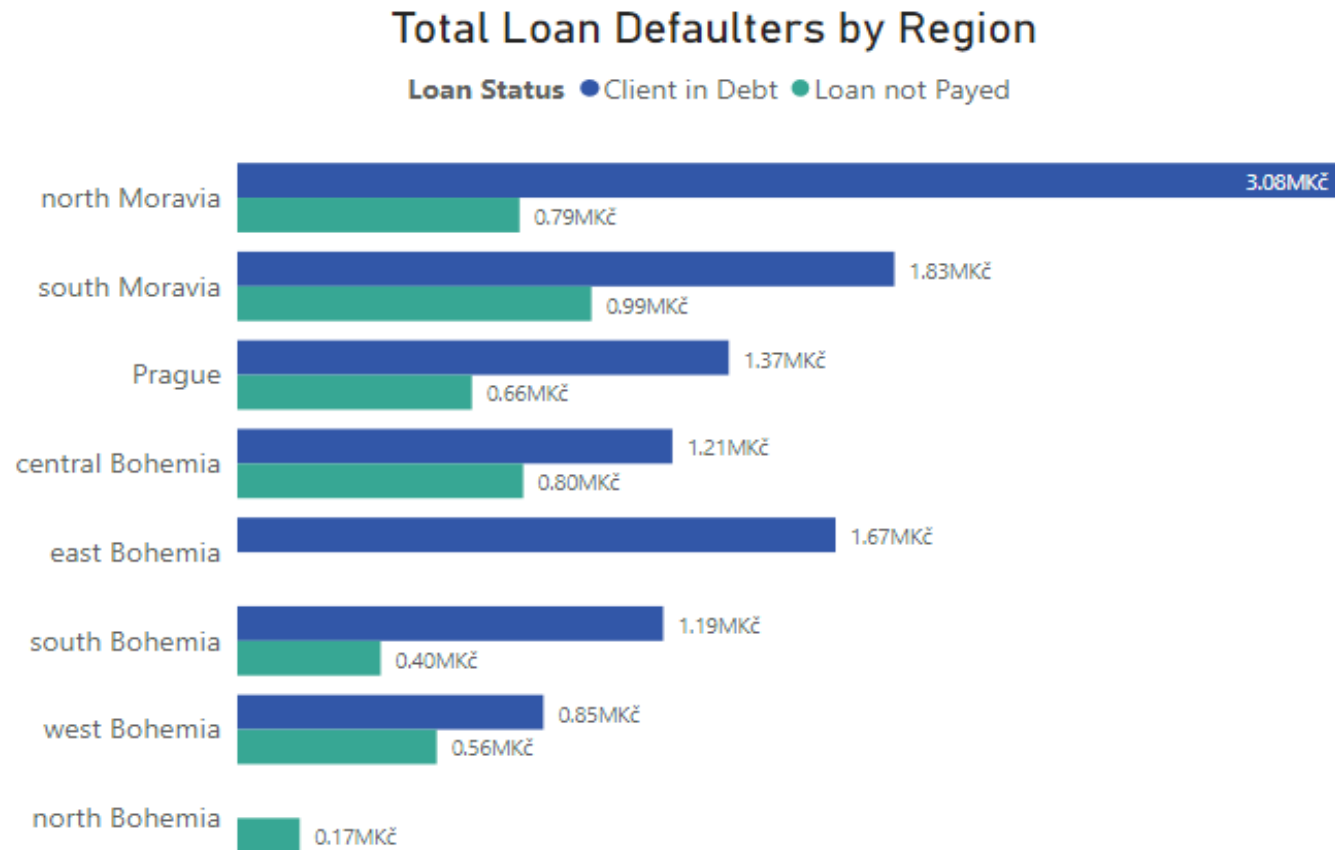
Females account for 45.7% (7.1M) in client debt while Males account for 26% (4.1M).
Females account for 15.6% (2.4M) in loans not paid while Males make up 12.4% (1.9M).
That's a total loan default amount of 9.5M(9.3%) for females and 6.M (5.8%) for males.



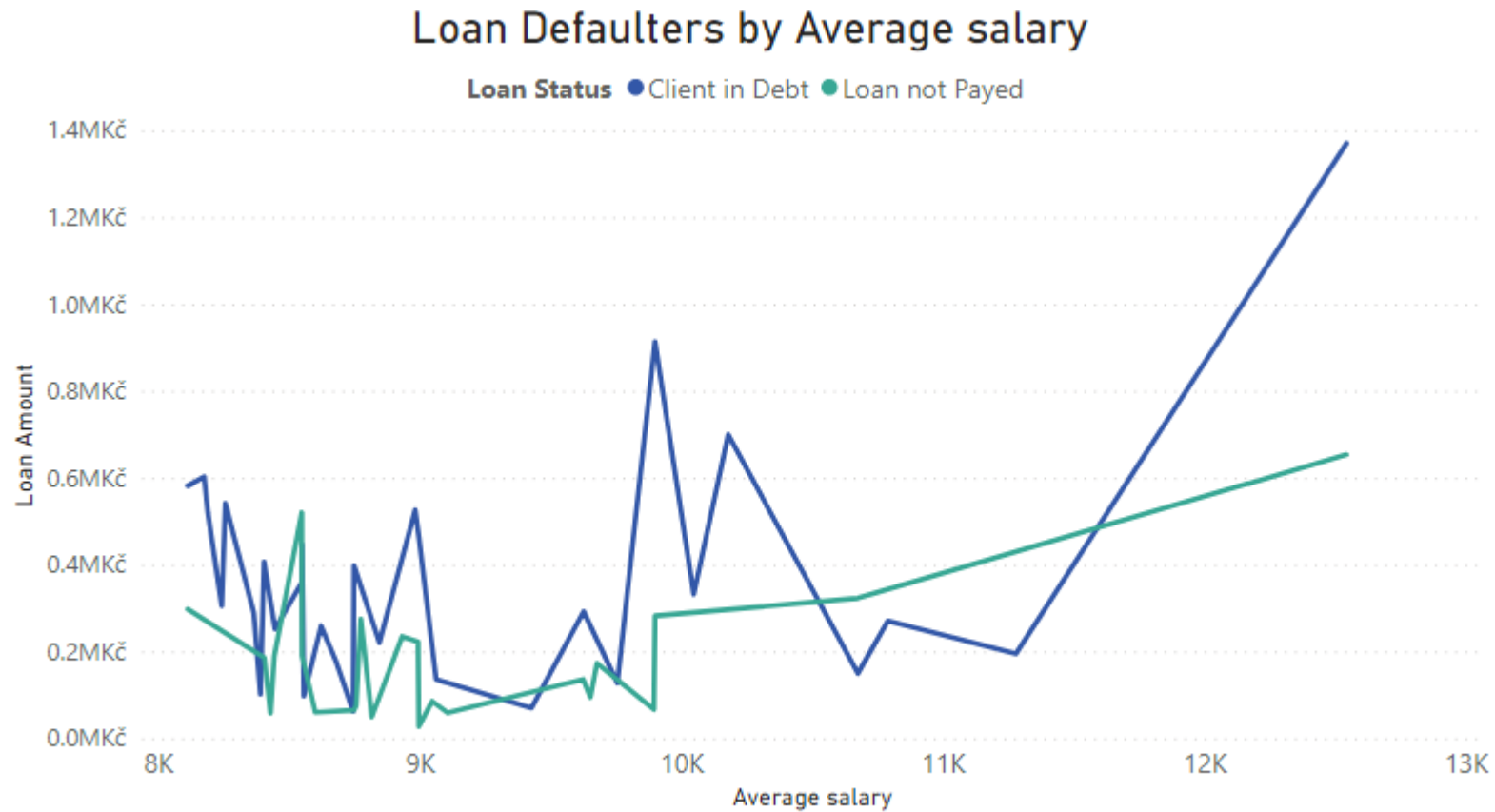
Middle age clients have the highest amount in default loans, accounting for 54% (8.4M) compared to Adults and Youth representing 24.7% and 21% respectively.



North Moravia has a total default value of 3.87M (24.85%) client debt and loan not paid.
North Bohemia 174.7k (1.12%) in loans not paid.



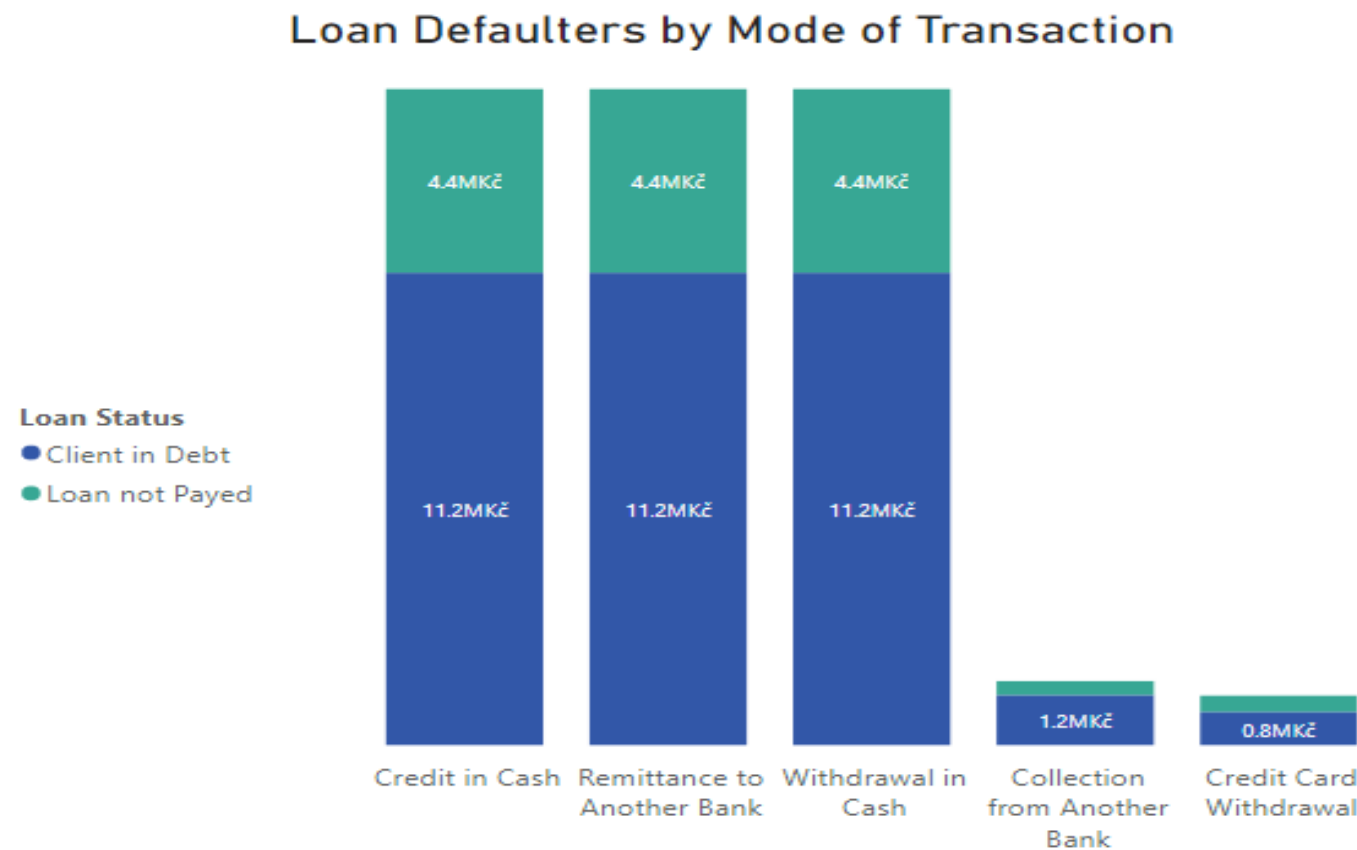
The higher the average salary, the higher the clients get into debt.
And the higher the default value.





LOAN DEFAULTERS BY TRANSACTIONAL ATTRIBUTES

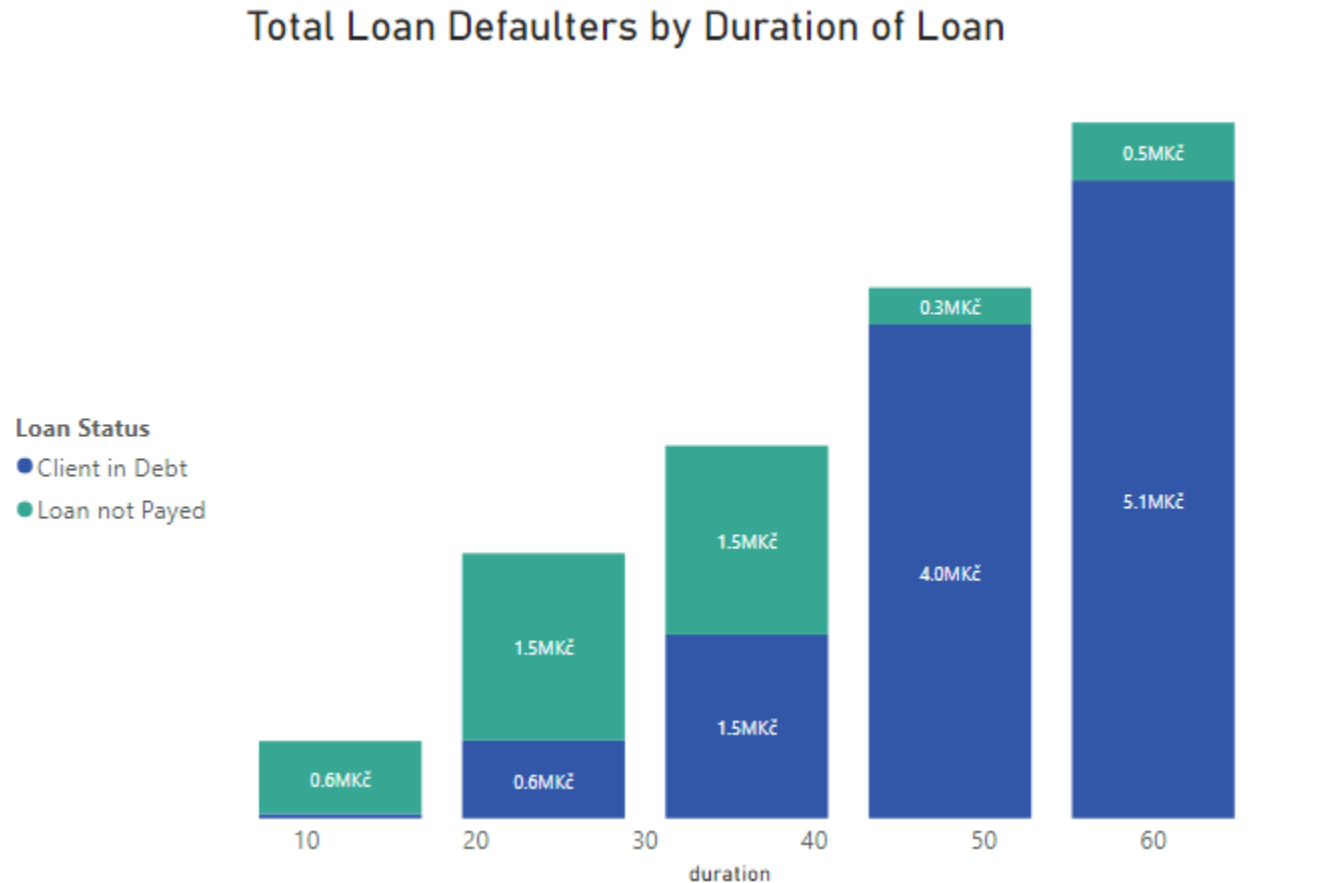
Cash transactions make up 72% of clients in debt and 28% of loans not paid.
Card transactions make up for 5% of clients in debt and 2.4% of loans not paid



Clients with 50-60 months duration of paying their loans are more in debt by 25.4% (4.0M) and 32.85%(5.1M) respectively.

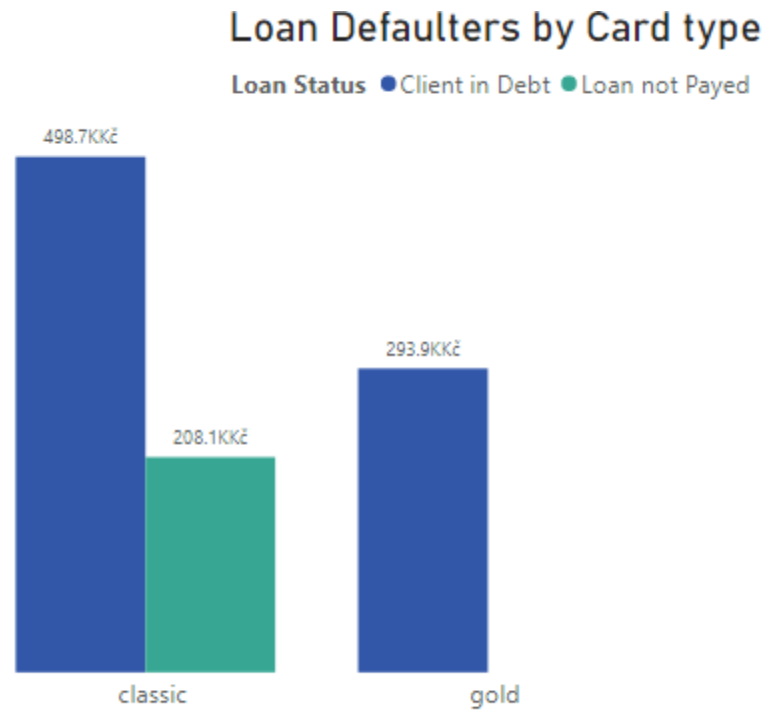
Clients with 30-40 months could not pay back loans by 4% (600K) and 9.46% (1.5M).

The longer the duration for repayment, the more the client gets into debt.



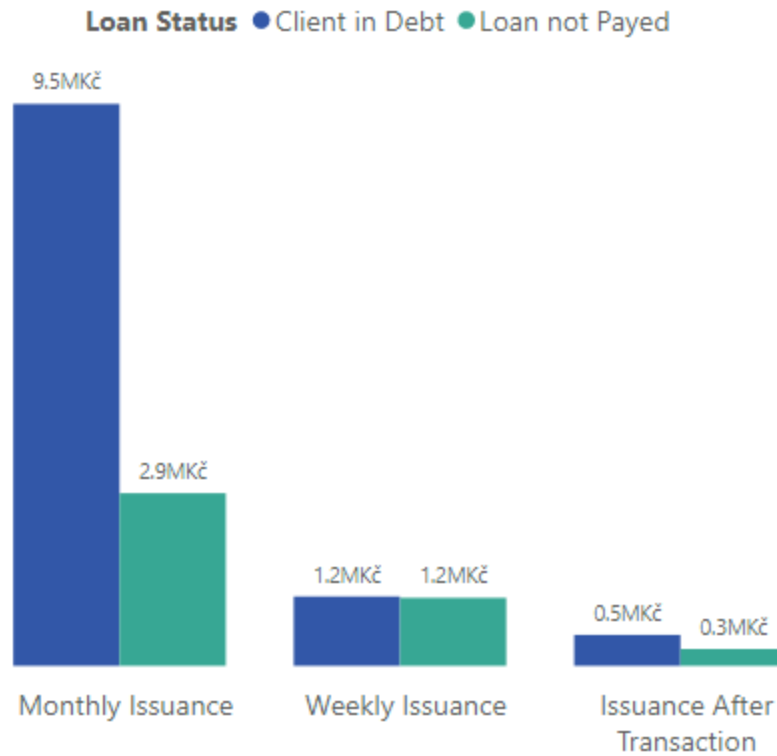
79% of loans are granted to clients without a credit card.

Credit cardholders Classic, Gold, and Junior account for 19%, 2.5%, and 4.5% of default loans

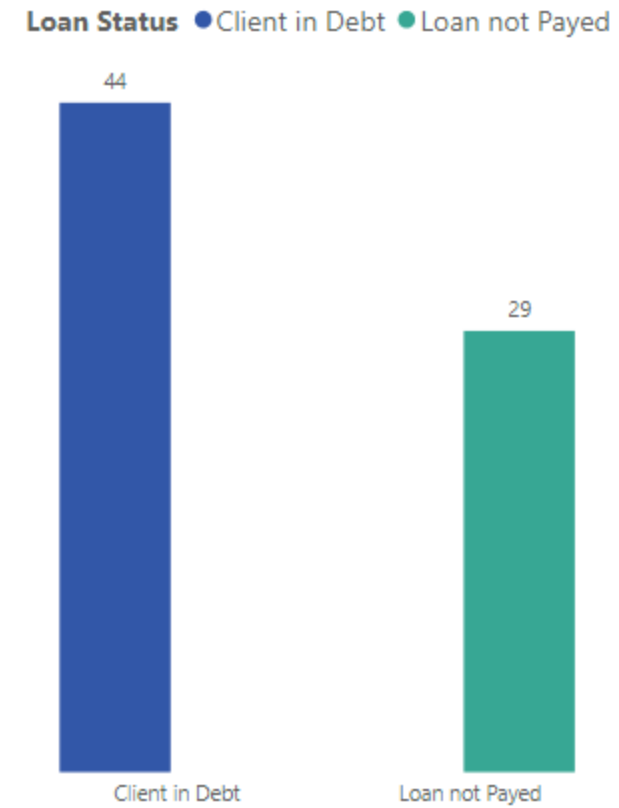


Monthly Issuance represents 61% of clients in debt and 18.7% of loans not paid

Loan Defaulters by Frequency of Statement Issuance



Number of Payments by Loan Status



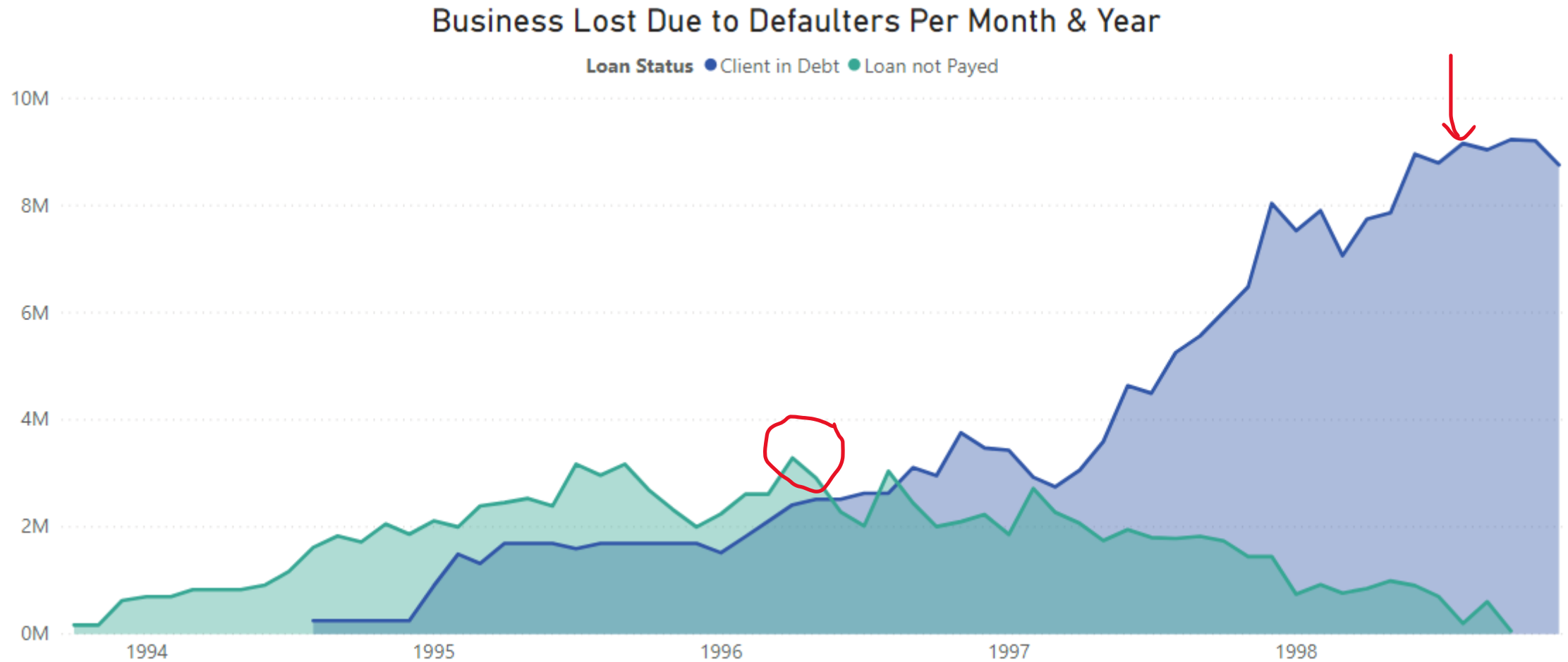


HOW MUCH THE BUSINESS HAS LOST DUE TO
DEFAULTERS IN TOTAL

SUMMARY OF LOST DUE TO DEFAULTERS IN TOTAL

Total Loan Amount	Total loan Paid	Total Unpaid Loan Amount	% of Total Unpaid Amount	Total Losses	% losses
103.26M	55.25M	48.01M	46.49%	7.82M	8%

There has been an increase in losses over the years peaking in October 1998 at 9.2M.
But there has been a continuous fall in loans not paid over the years peaking in April 1996 at 3.2M and falling to 601k in September 1998.

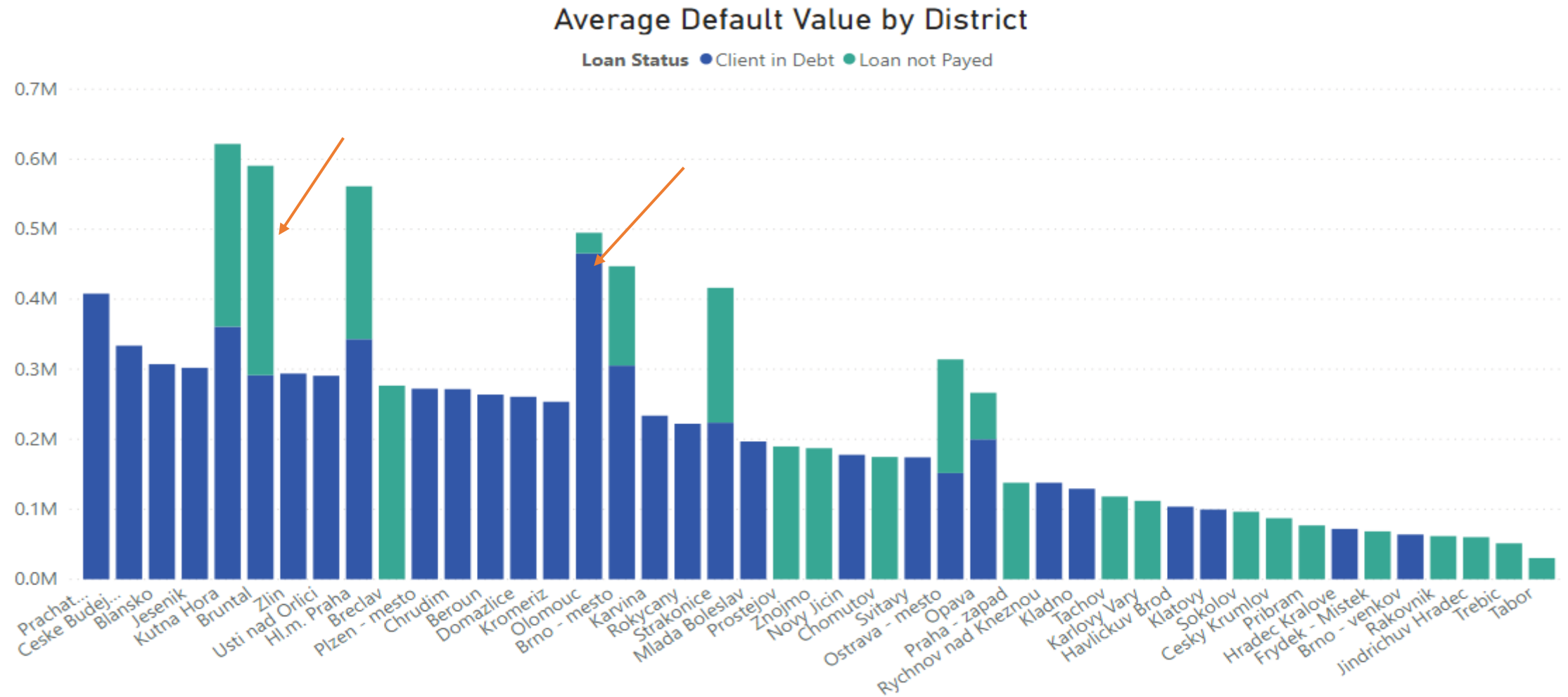




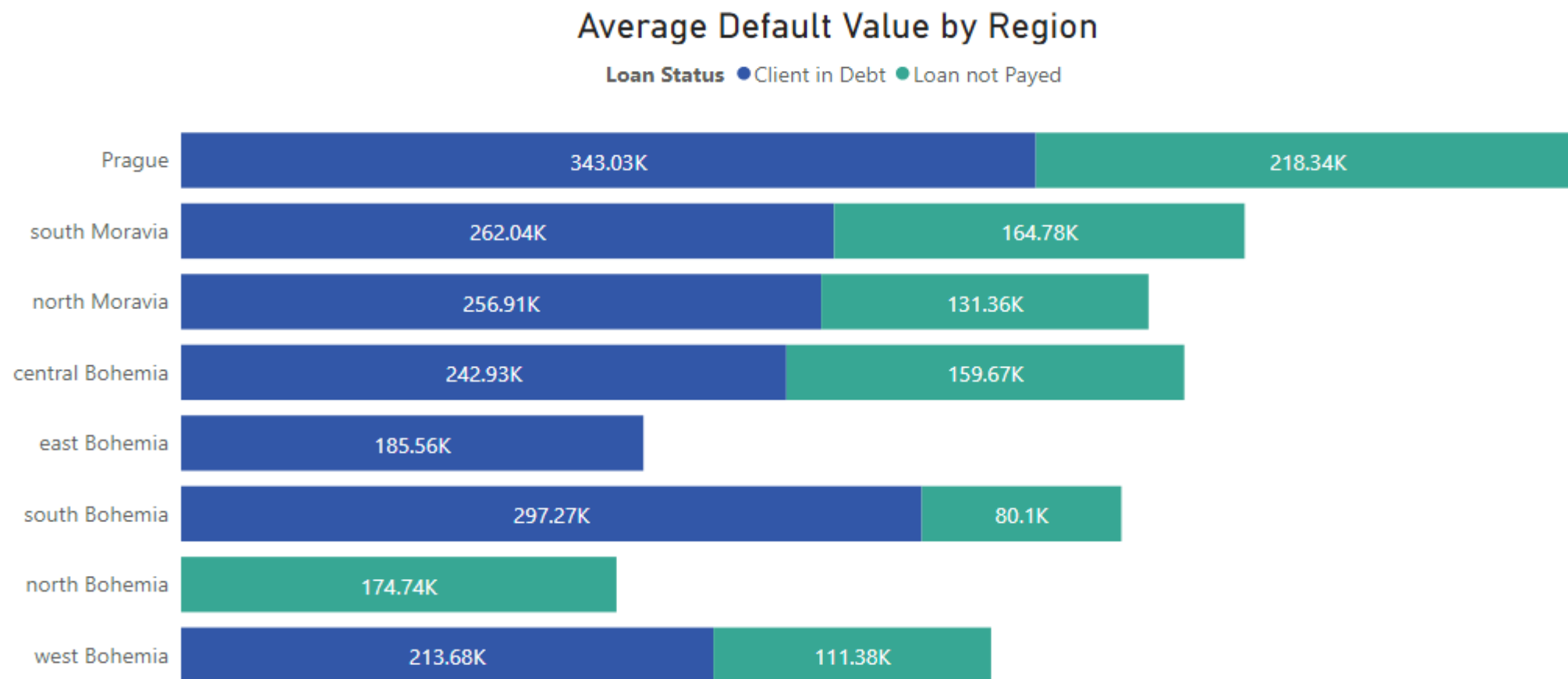
OTHER
ANALYSIS

Olomouc district in North Moravia has the highest client in debt averaging 465k.

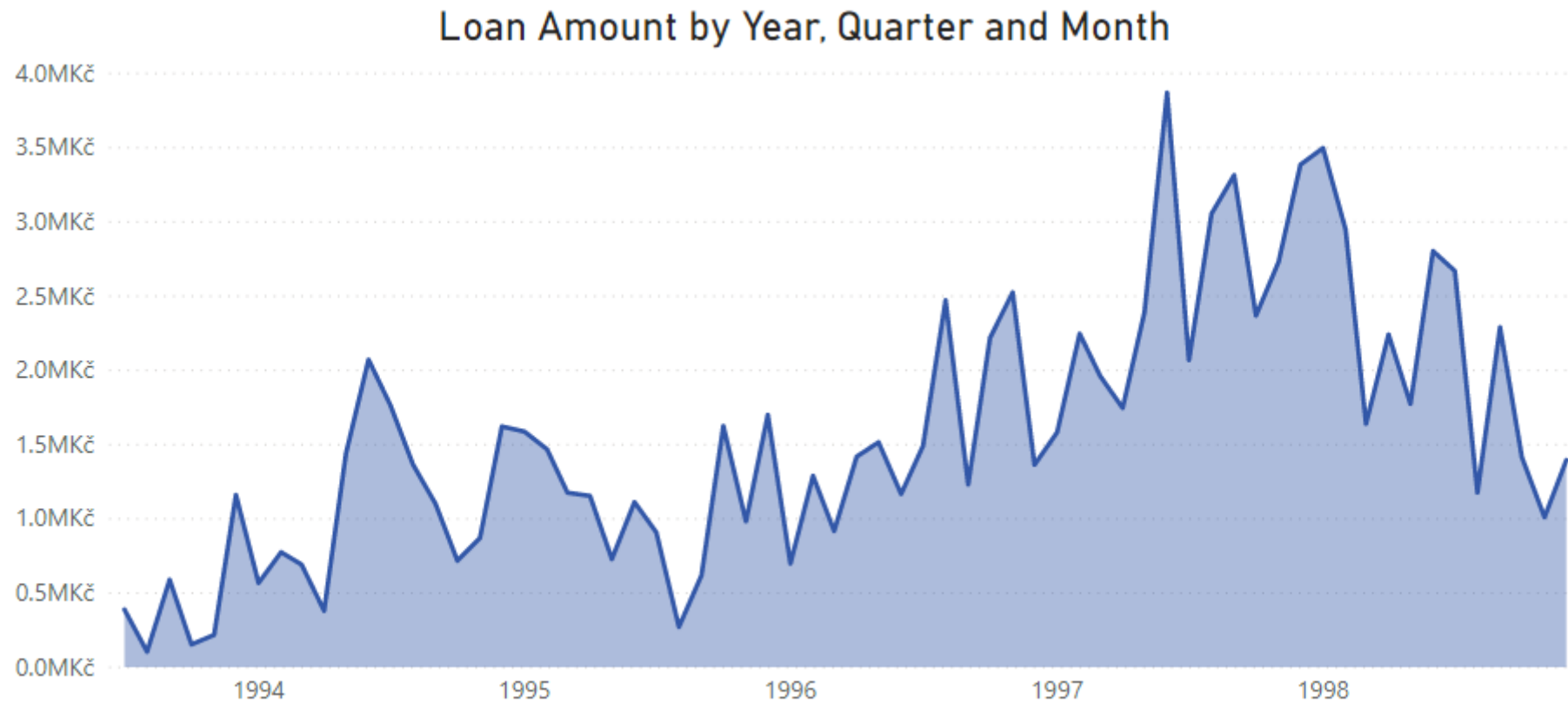
Bruntal district in North Moravia region also has the highest amount of loans not paid averaging 266k



Prague is the region with the highest average amount of clients in debt and loans not paid.



There is an increase and decrease in the number of clients applying for loans over the years, but there is **no seasonality trend** of applying for these loans.





RECOMMENDATIONS



Additional demographic attributes like number of children, marital status, number of cars, house ownership, level of education should be added to better understand if the client can pay back loans.



Tougher measures must be introduced on non-credit cardholders taking out loans.



An immediate review should be carried out on the durations of loans granted out.



Issuances should be sent out to clients immediately after each transaction or at minimum weekly.



The bank should consider increasing its loan products



A reward system could be introduced to clients who repay their loans on time and in full.

CONCLUSION

It is vital going further to collect much more data on:

- ❖ clients demography
- ❖ Transactional attributes
- ❖ Types of loans

to better understand client behavior.