

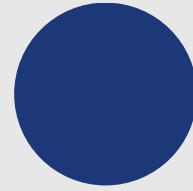
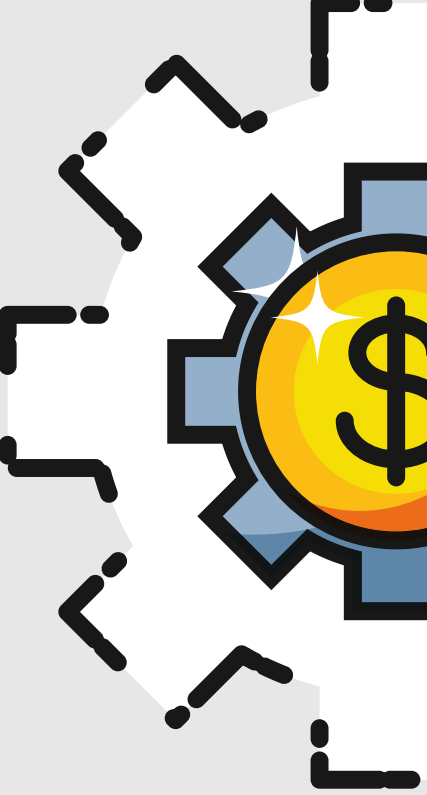
17/09/2025

CUSTOMER PROFILING FOR PERFORMING LOANS

Study Case:
Microfinance Loan



VCS Team



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Data Preparation



```
# Importing all libraries that needed
import numpy as np
import pandas as pd
import matplotlib.pyplot as plt
import seaborn as sns
```

✓ 0.0s

Python

```
# Read from csv data source
df = pd.read_csv('Microfinance.csv', encoding="ISO-8859-1")
df.sample(10)
```

✓ 0.0s

Python

	LoanID	CustomerID	DOB	Occupation	Home Ownership	Township	Region	Issue Date	Expected End Date	Days Overdue	Term Months	Current Term Months	Installment	Outstanding	Loan Status	Loan Amount	Funded Amount	Interest Rate	LoanType	Purpose
1748	ZL0739	CF7895	19/08/1981	Nurse	Family	Patheingyi	Mandalay	13/07/2024	13/08/2025	16.0	13	13	180000	180000	Late (16-30 days)	2400000	1000000	0.14	Hire Purchase Loan	Major Purchase
180	ZL1299	CF1209	09/05/1983	Farmer	Own	Tada?U	Mandalay	12/15/2022	15/08/2025	14.0	32	32	108000	108000	In Grace Period	1500000	1500000	0.15	Agricultural Loan	Agriculture
1245	ZL0264	CF4454	19/05/2000	Freelancer	Own	Taungoo	Bago	13/06/2024	13/08/2025	16.0	14	14	315000	315000	Late (16-30 days)	3700000	2000000	0.11	Home Improvement Loan	Household
54	ZL1135	CF0052	22/10/1976	Business Owner	Family	Nawngkhio	Shan	11/13/2023	13/07/2026	-318.0	32	21	315000	3465000	Current	3900000	700000	0.11	Home Improvement Loan	Household
855	ZL1983	CF3286	06/06/1965	Government Employee	Rent	Gyobingauk	Bago	4/13/2025	13/09/2027	-745.0	29	4	225000	5625000	Current	2900000	500000	0.13	Agricultural Loan	Agriculture
198	ZL1796	CF1267	28/04/1998	Private Company Employee	Rent	Meiktila	Mandalay	10/2/2024	02/01/2027	-491.0	27	10	315000	5355000	Current	3600000	1700000	0.11	Agricultural Loan	Agriculture
923	ZL1887	CF3490	21/11/1986	Teacher	Own	Okpho	Bago	3/31/2025	31/10/2027	-793.0	31	4	135000	3645000	Current	1800000	900000	0.15	Personal Loan	Debt Consolidation
1936	ZL0284	CF9496	27/01/1969	Teacher	Rent	Bago	Bago	13/11/2022	13/08/2025	16.0	33	33	108000	108000	Late (16-30 days)	1400000	1100000	0.16	Personal Loan	Vacation
1014	ZL1003	CF3740	25/10/1999	Doctor	Own	Myittha	Mandalay	9/15/2023	15/04/2026	-229.0	31	23	180000	1440000	Current	2500000	900000	0.13	Personal Loan	Moving
1535	ZL0517	CF5987	22/10/1975	Private Company Employee	Rent	Tharrawaddy	Bago	14/07/2023	14/08/2025	15.0	25	25	63000	63000	In Grace Period	800000	700000	0.18	Education Loan	Tution Fee

Data Preparation



```
df.info()
✓ 0.0s

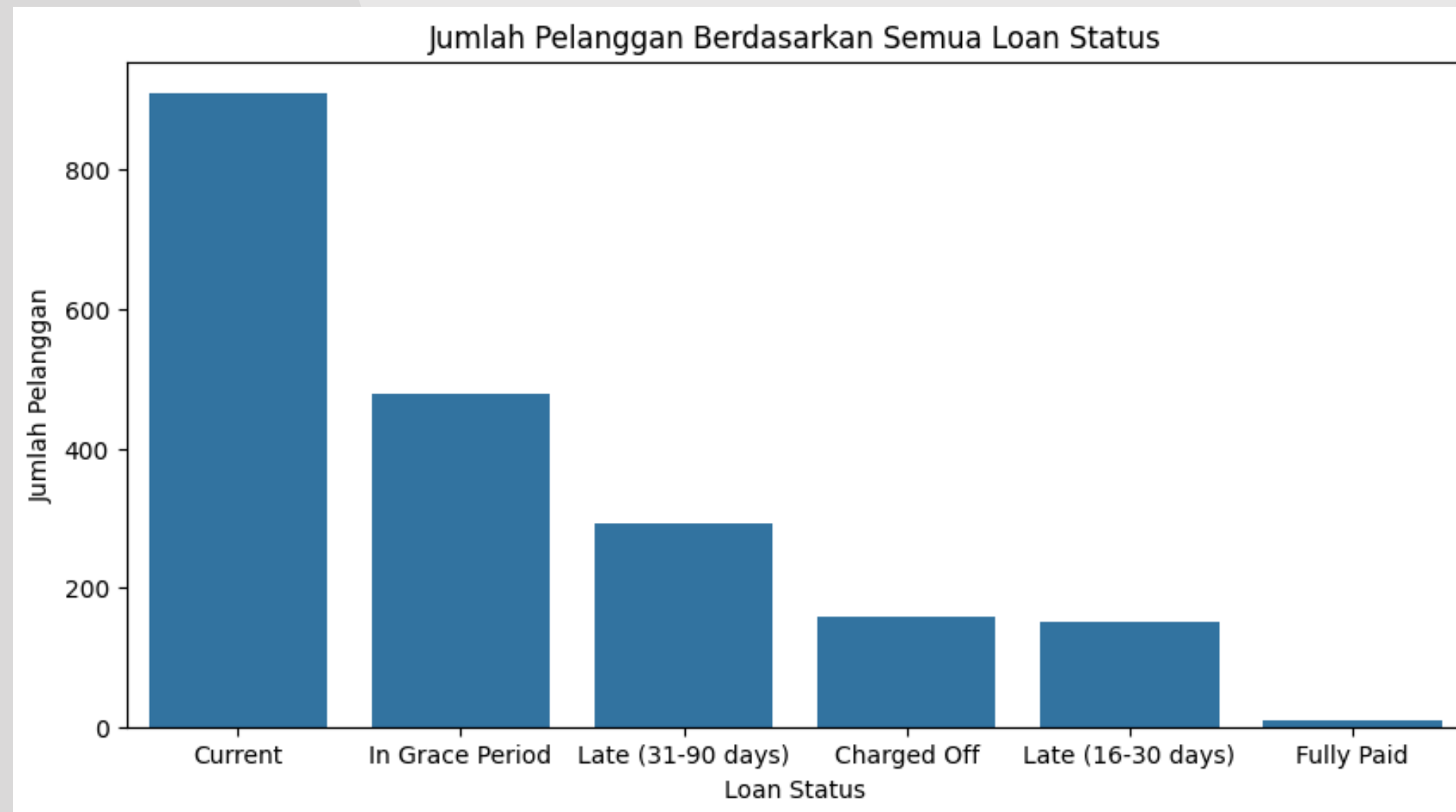
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 2000 entries, 0 to 1999
Data columns (total 20 columns):
#   Column                Non-Null Count  Dtype
---  -
0   LoanID                2000 non-null  object
1   CustomerID            2000 non-null  object
2   DOB                   2000 non-null  object
3   Occupation             2000 non-null  object
4   Home Ownership         2000 non-null  object
5   Township              2000 non-null  object
6   Region                2000 non-null  object
7   Issue Date            2000 non-null  object
8   Expected End Date     2000 non-null  object
9   Days Overdue          2000 non-null  float64
10  Term Months           2000 non-null  int64
11  Current Term Months   2000 non-null  int64
12  Installment           2000 non-null  int64
13  Outstanding           2000 non-null  int64
14  Loan Status           2000 non-null  object
15  Loan Amount           2000 non-null  int64
16  Funded Amount         2000 non-null  int64
17  Interest Rate         2000 non-null  float64
18  LoanType              2000 non-null  object
19  Purpose               2000 non-null  object
dtypes: float64(2), int64(6), object(12)
memory usage: 312.6+ KB
```

Knowledge Source:

- Dataset contains client information for a fintech industry in Myanmar
- The dataset consists of 2,000 rows of data, where each row contains specific information for a microfinance client applying for a loan, detailed across 20 variables.
- 20 Variables: LoanID, CustomerID, DOB, Occupation, Home Ownership, Township, Region, Issue Date, Expected End Date, Days Overdue, Term Months, Current Term Months, Installment, Outstanding, Loan Status, Loan Amount, Funded Amount, Interest Rate, LoanType, Purpose

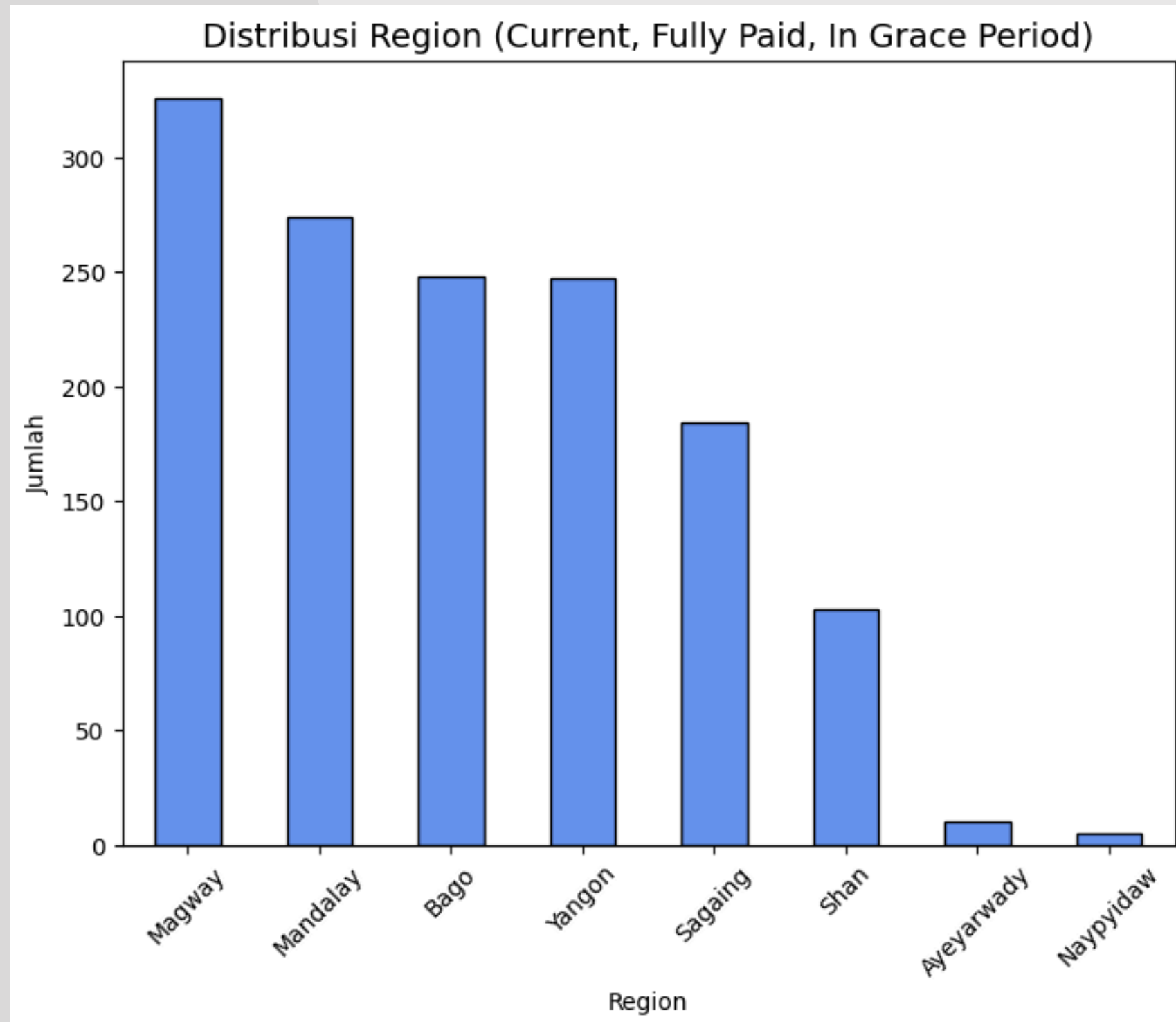


Show Bar Chart for All Statuses



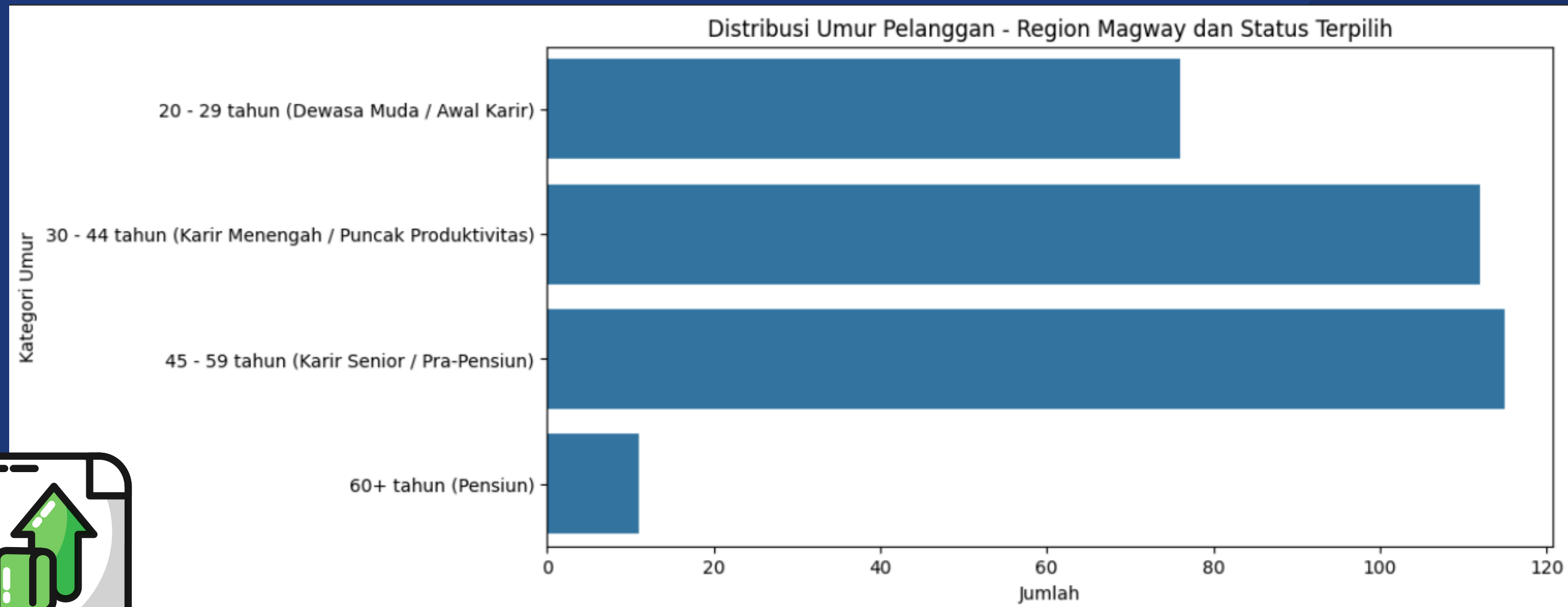
- Status “current” masih mendominasi portofolio credit ini, akan tetapi masih banyak yang berisiko terlambat bayar (in grace period)
- Jumlah kredit macet (charged off) dan terlambat parah (31-90 days) cukup signifikan
- Sangat sedikit pinjaman yang sudah lunas, hal ini mengidentifikasi bahwa portofolio ini masih baru

Show Top Regions based on the selected Loan Status

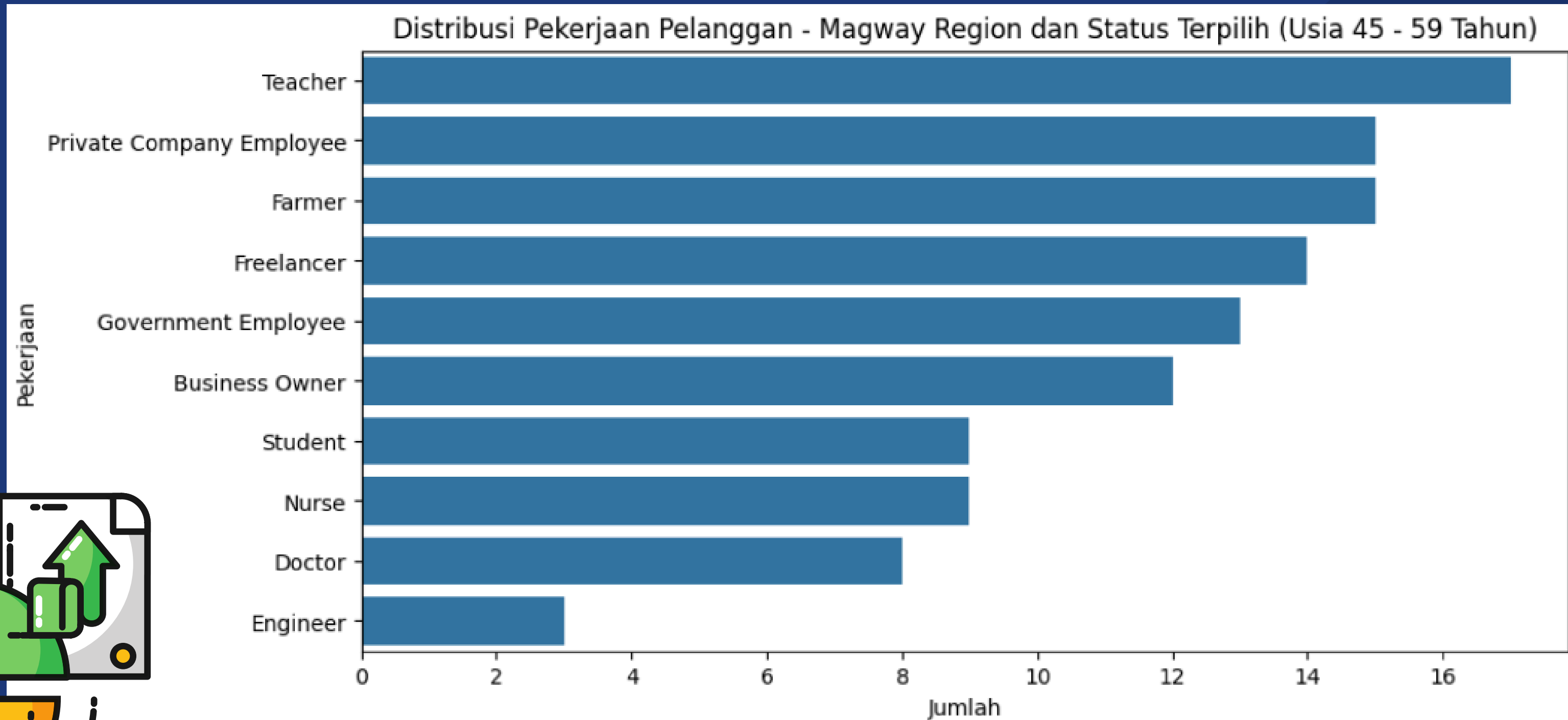


- Mayoritas portofolio credit lancar (lebih dari 70%) terkonsentrasi hanya di beberapa wilayah seperti Magway, Mandalay, Bago, dan Yangon.
- Wilayah Ayeyarwady dan Naypyidaw memiliki kensenjangan yang sangat tinggi dengan wilayah lainnya.
- Fokus bisnis dan akuisisi pelanggan saat ini sangat dominan di wilayah utama saja sementara wilayah lainnya memiliki kontribusi yang sangat kecil.

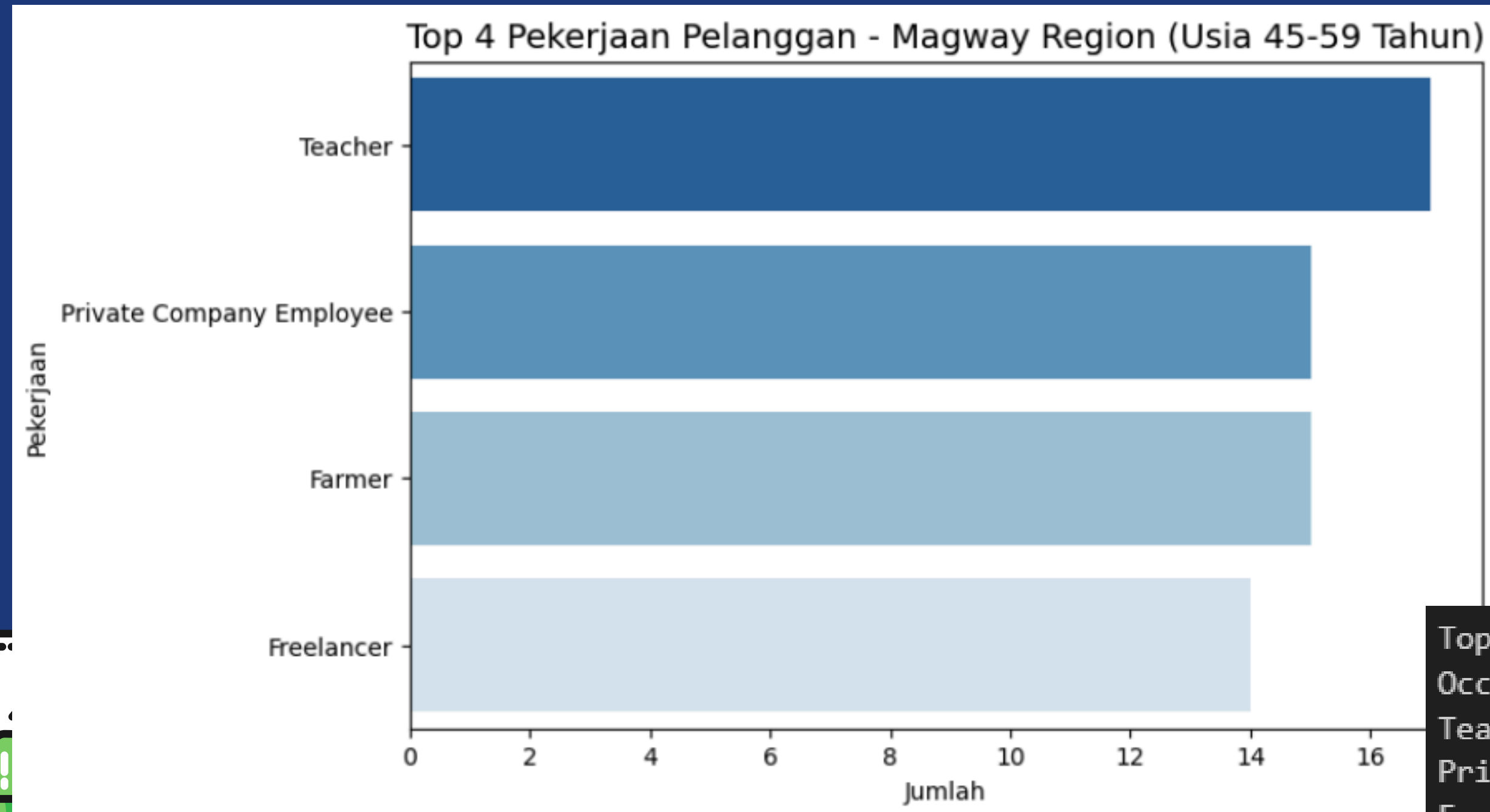
● Profiling Based on Age dengan Status “Fully Paid”, “Current”, “On Grace Period”



Show Occupation based on the selected Age



Show Occupation based on the selected Age



Top 4 Occupation:

Occupation

Teacher 17

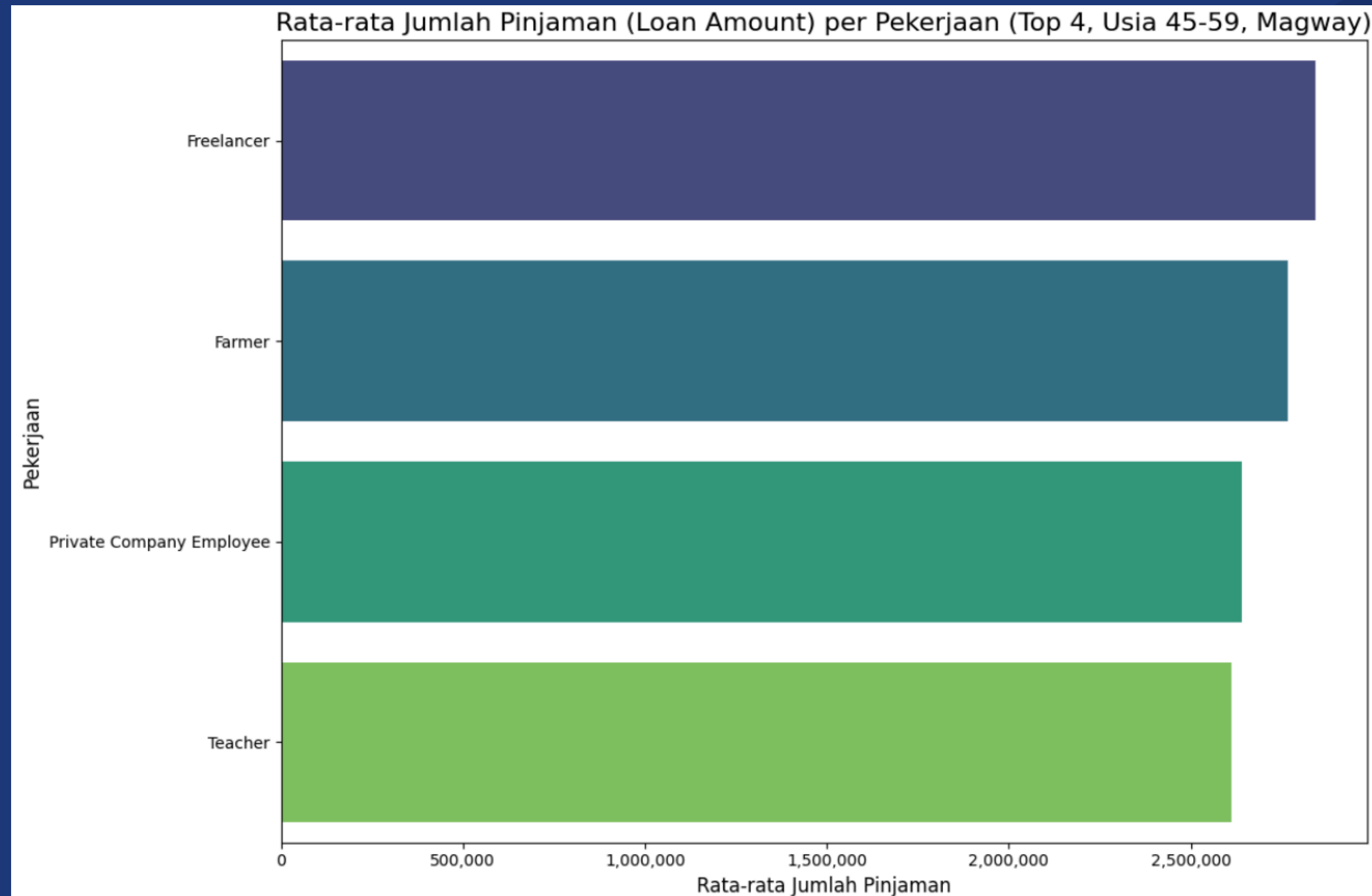
Private Company Employee 15

Farmer 15

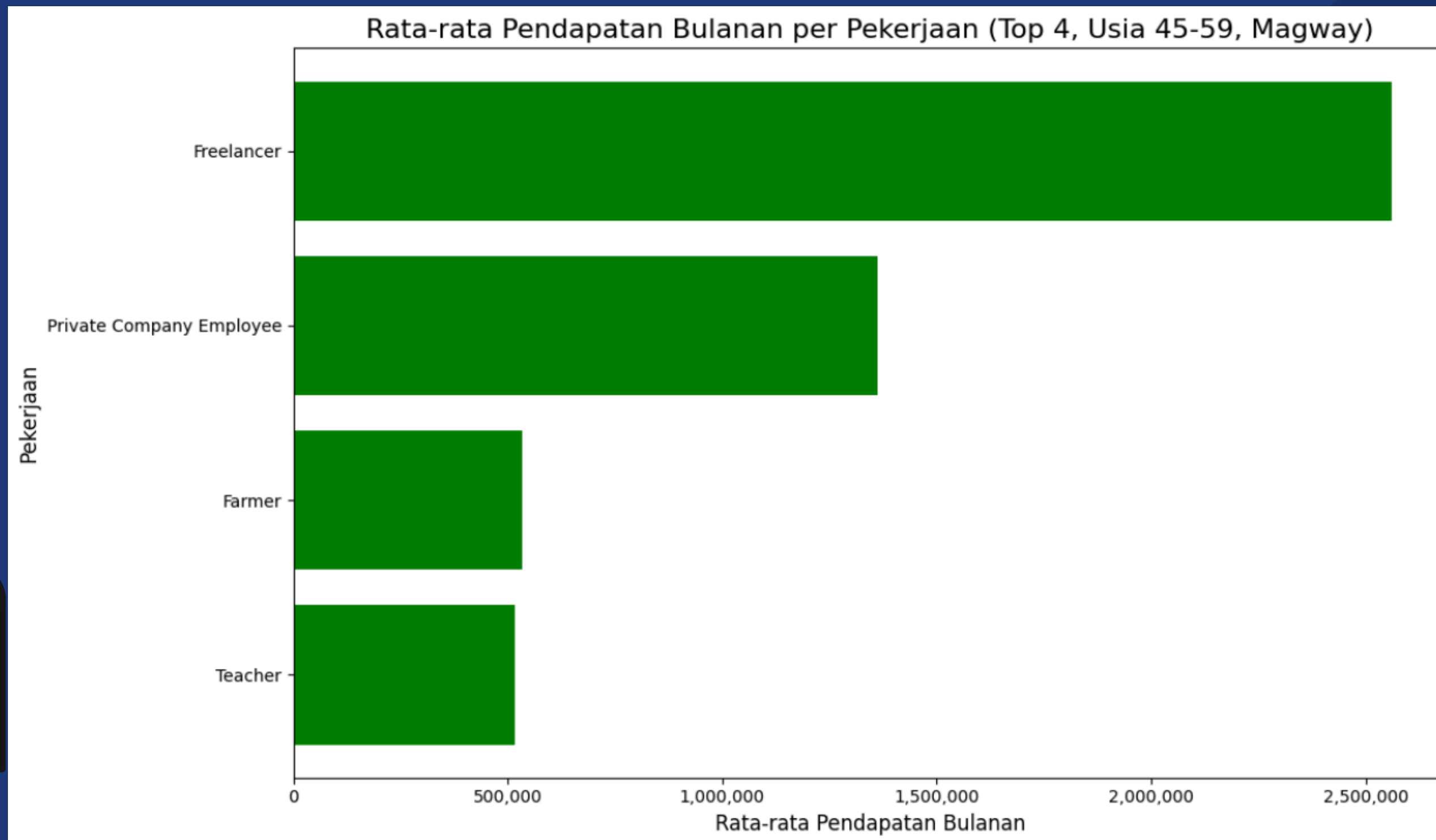
Freelancer 14

Name: count, dtype: int64

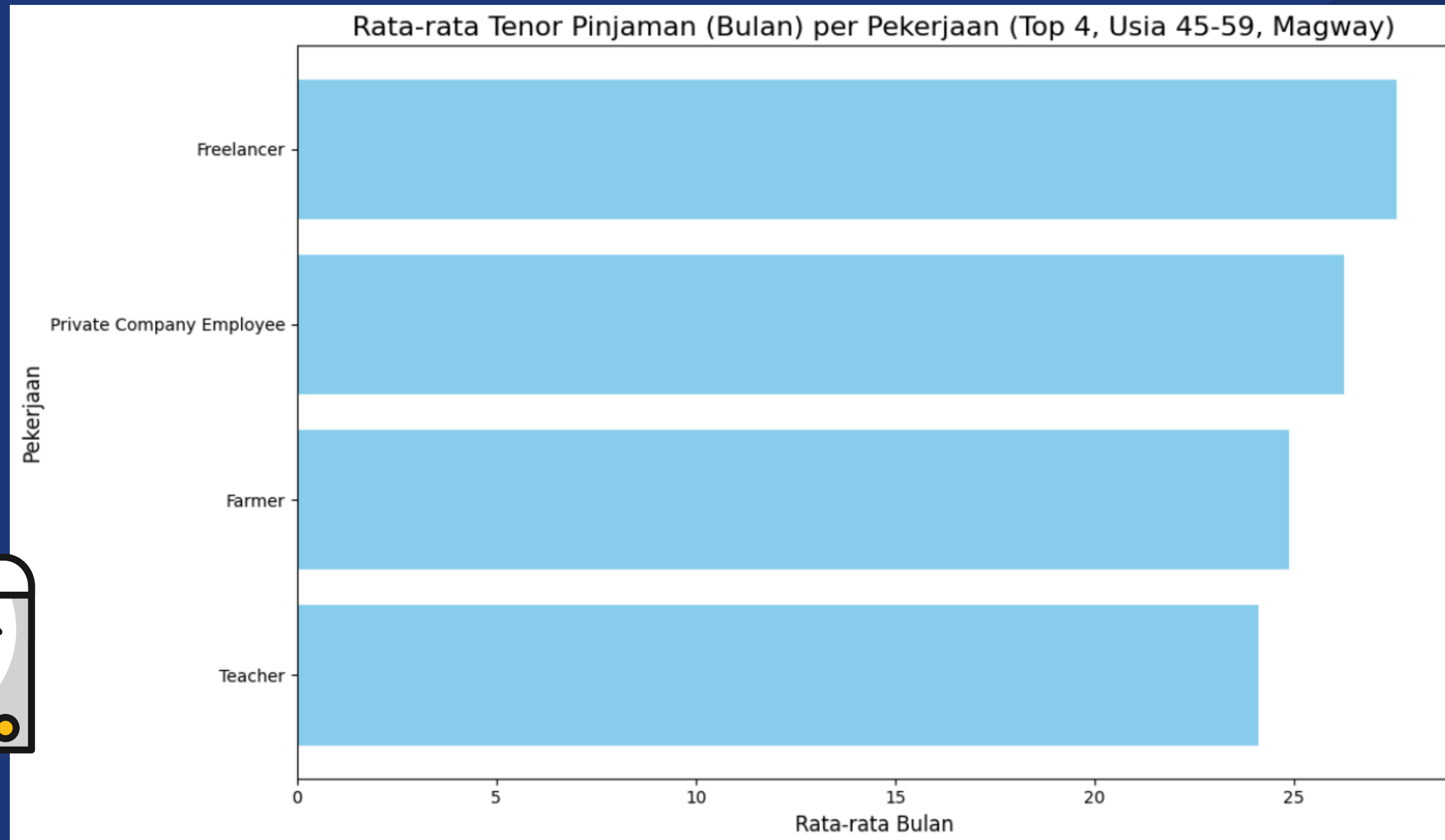
● Show Avg Loan Amount of Occupation based on the selected Age



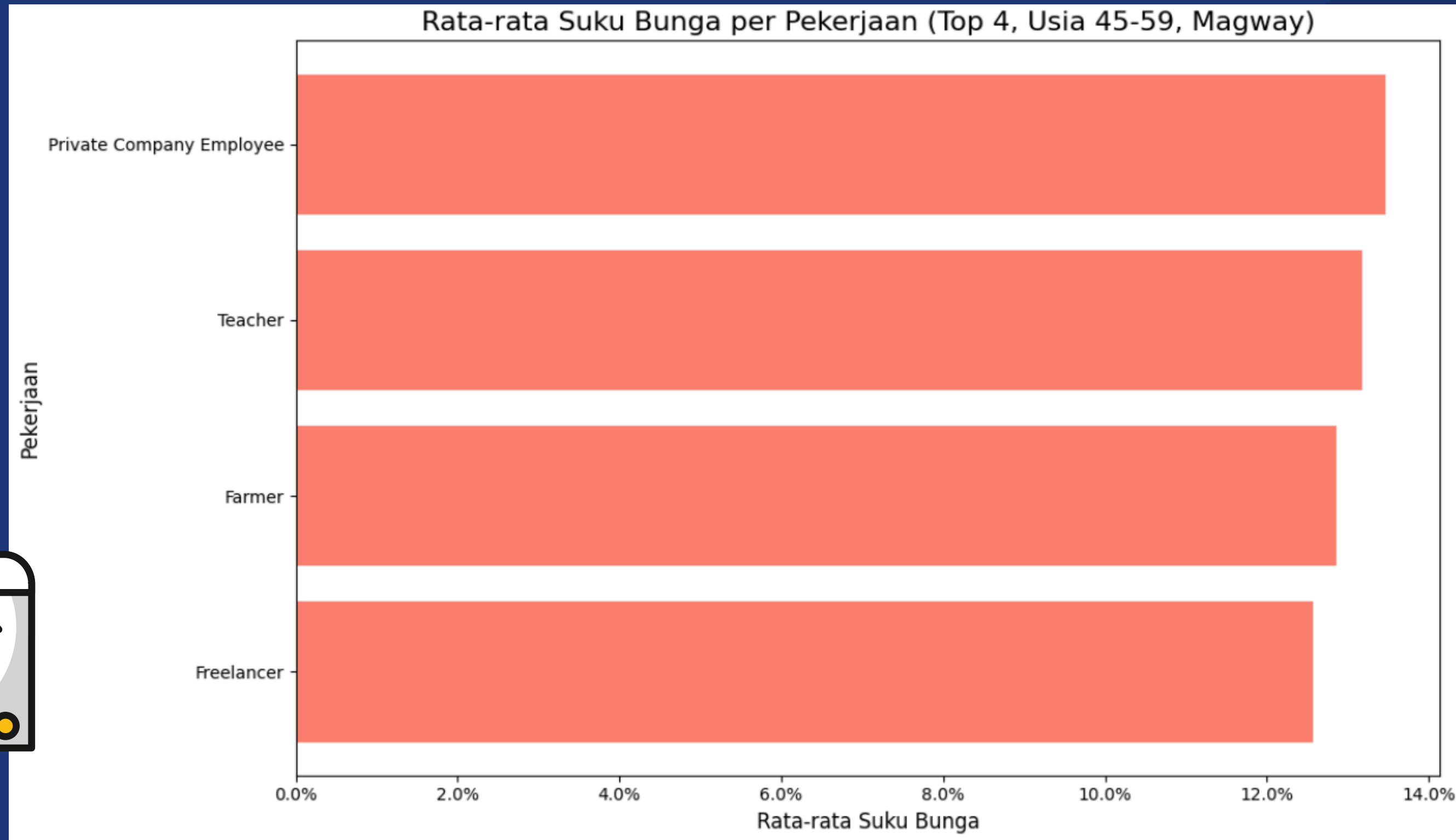
● Show Avg Monthly Income of Occupation based on the selected Age



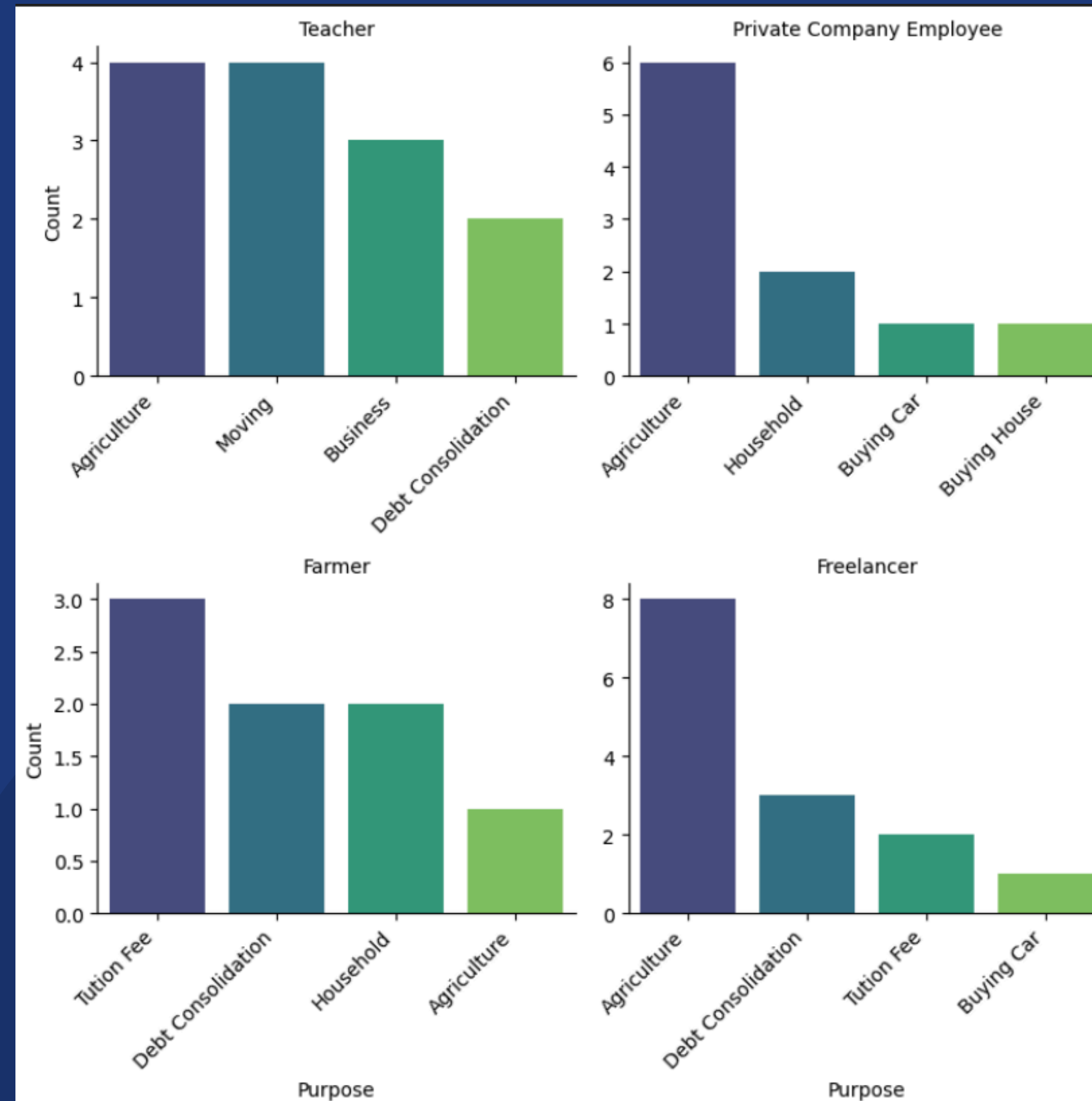
● Show Avg Tenor Month of Occupation based on the selected Age



● Show Avg Interest Rate of Occupation based on the selected Age

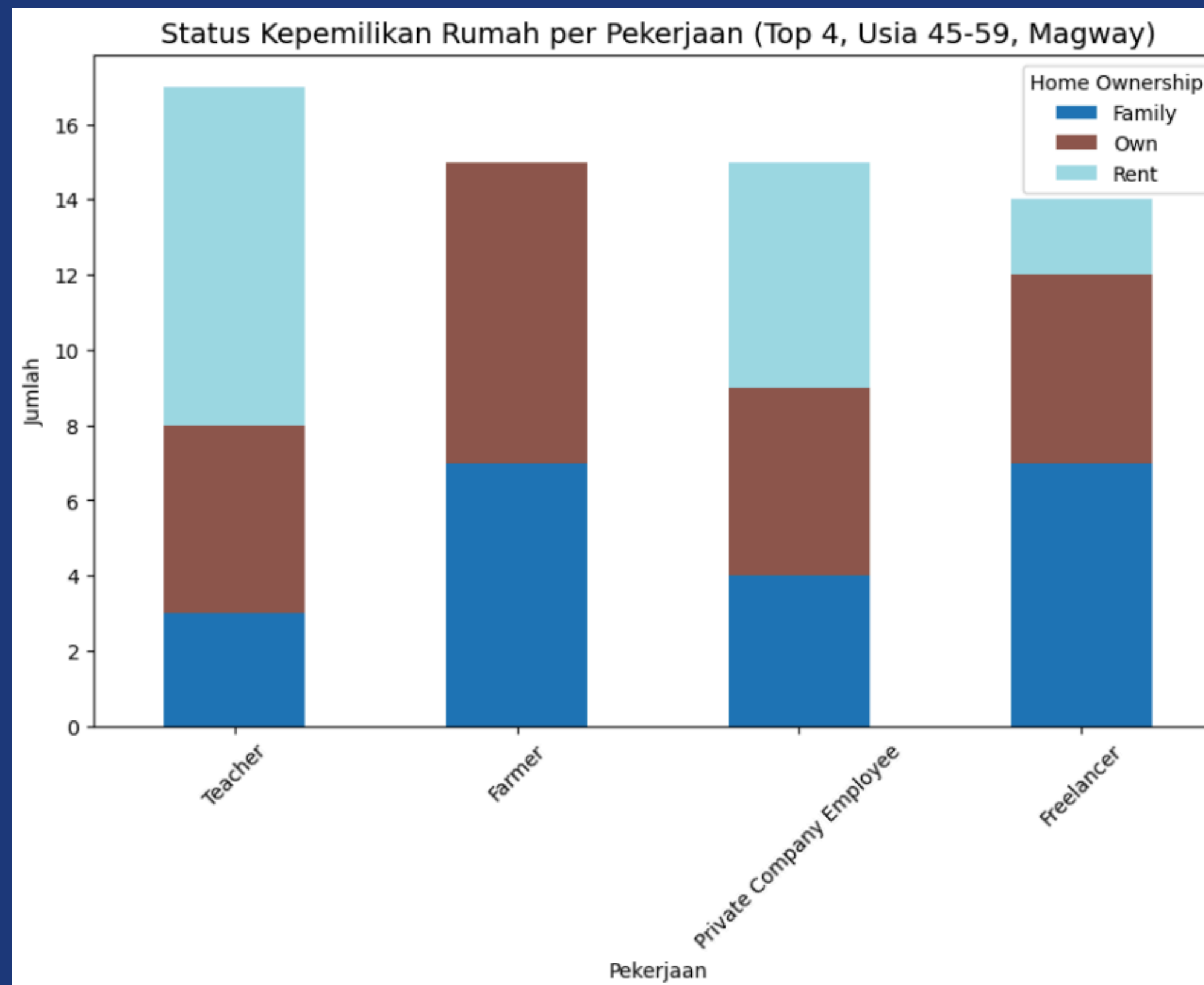


● Show Purposes based on the Top 4 Occupation





Show Home Ownership based on the Top 4 Occupation



Our Customer Profile

- Magway Region

- Usia 45–59 tahun
- Pekerjaan Utama: Teacher (Guru), Farmer (Petani), Private Company Employee (Pegawai Swasta), dan Freelancer.
- Tujuan peminjaman untuk agriculture
- Loan amount berada di antara 2.500.000 – 3.000.000
- Range pendapatan di 250.000 – 550.000
- Rata-rata mengambil tenor di antara 25–30 bulan
- Suku bunga favorit di 12–14%



Our Strategy

- Promosi sesuai segmentasi, seperti promo khusus pertanian.
- Cross Selling
- Identify and control the collateral



Thank You

The best way to manage the future is not to predict it, but to create it with the right decisions today.

