CREDIT CARD APPROVAL PREDICTION

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HOW MIGHT WE DECIDE TO ISSUE A CREDIT CARD TO THE APPLICANT?

DATA INFORMATION

Credit Card Approval Prediction Dataset

https://www.kaggle.com/datasets/rikdifos/credit-card-approval-prediction?select=application_record.csv

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Includes metadata for:

- - 281, 946 rows of data
- - Customer personal information (gender, family status, housing status, education level, occupation, income)
- - Financial information (months balance, status of the debt)

HOW A CREDIT CARD IS ISSUED?

The bank uses personal information and data submitted by the applicants to predict the probability of future borrowings. The bank is then able to decide whether to issue a credit card to the applicant.

Banks are becoming more careful as more than one in three credit card applications are getting approved in a day.

For instance, only 14 per cent of cards were being approved in a day in the first quarter of 2014-15.

Source: Business Standard

APPLICANTS DETAILS

These are the application details gathered to predict the probability of the approval.
The details include their ID, gender, whether they own a car, property, education level, family status and occupation.

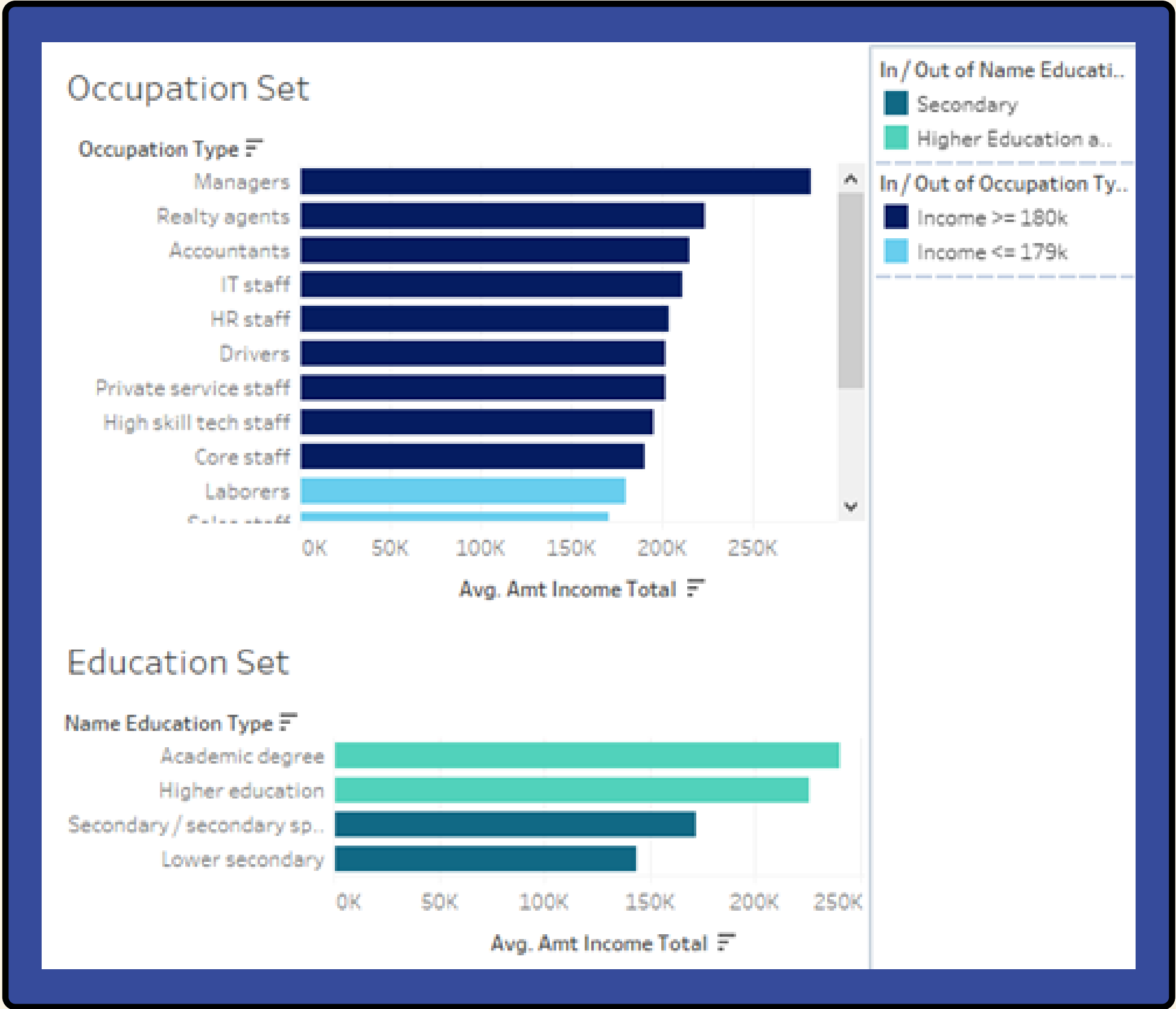**TABLEAU LINK**

Application details

ID	Code Gender	Flag Own Car	Flag Own R..	Name Education Type	Name Family Status	Occupation Type
5008806	Male	Y	Y	Secondary / secondary sp..	Married	Security staff
5008808	Female	N	Y	Secondary / secondary sp..	Single / not married	Sales staff
5008809	Female	N	Y	Secondary / secondary sp..	Single / not married	Sales staff
5008810	Female	N	Y	Secondary / secondary sp..	Single / not married	Sales staff
5008811	Female	N	Y	Secondary / secondary sp..	Single / not married	Sales staff
5008815	Male	Y	Y	Higher education	Married	Accountants
5008819	Male	Y	Y	Secondary / secondary sp..	Married	Laborers
5008820	Male	Y	Y	Secondary / secondary sp..	Married	Laborers
5008821	Male	Y	Y	Secondary / secondary sp..	Married	Laborers
5008822	Male	Y	Y	Secondary / secondary sp..	Married	Laborers
5008823	Male	Y	Y	Secondary / secondary sp..	Married	Laborers
5008824	Male	Y	Y	Secondary / secondary sp..	Married	Laborers
5008825	Female	Y	N	Incomplete higher	Married	Accountants
5008826	Female	Y	N	Incomplete higher	Married	Accountants
5008830	Female	N	Y	Secondary / secondary sp..	Married	Laborers
5008831	Female	N	Y	Secondary / secondary sp..	Married	Laborers
5008832	Female	N	Y	Secondary / secondary sp..	Married	Laborers
5008836	Male	Y	Y	Secondary / secondary sp..	Married	Laborers
5008837	Male	Y	Y	Secondary / secondary sp..	Married	Laborers
5008838	Male	N	Y	Higher education	Married	Managers

EDUCATION & OCCUPATION OF APPLICANTS

The majority of the applicants have obtained higher education or an academic degree and have established their careers and are securing an average income of 180K rupees.

The top earners are managers, realty agents, accountants, IT staff, HR staff, drivers, private sector staff, high skill tech staff and core staff who are earning 180K rupees or more.

DASHBOARD LINK

Occupation Set

In / Out of Name Educati..
- Secondary
- Higher Education a..

In / Out of Occupation Ty..
- Income >= 180k
- Income <= 179k

Occupation Type
- Managers
- Realty agents
- Accountants
- IT staff
- HR staff
- Drivers
- Private service staff
- High skill tech staff
- Core staff
- Laborers

0K 50K 100K 150K 200K 250K
Avg. Amt Income Total

Education Set

Name Education Type
- Academic degree
- Higher education
- Secondary / secondary sp..
- Lower secondary

0K 50K 100K 150K 200K 250K
Avg. Amt Income Total

APPLICANTS INCOME

There is a large number of applicants who are still working with 7 applicants earning the 6,750,000 rupees and 10 applicants earning 4,500,000 rupees respectively.
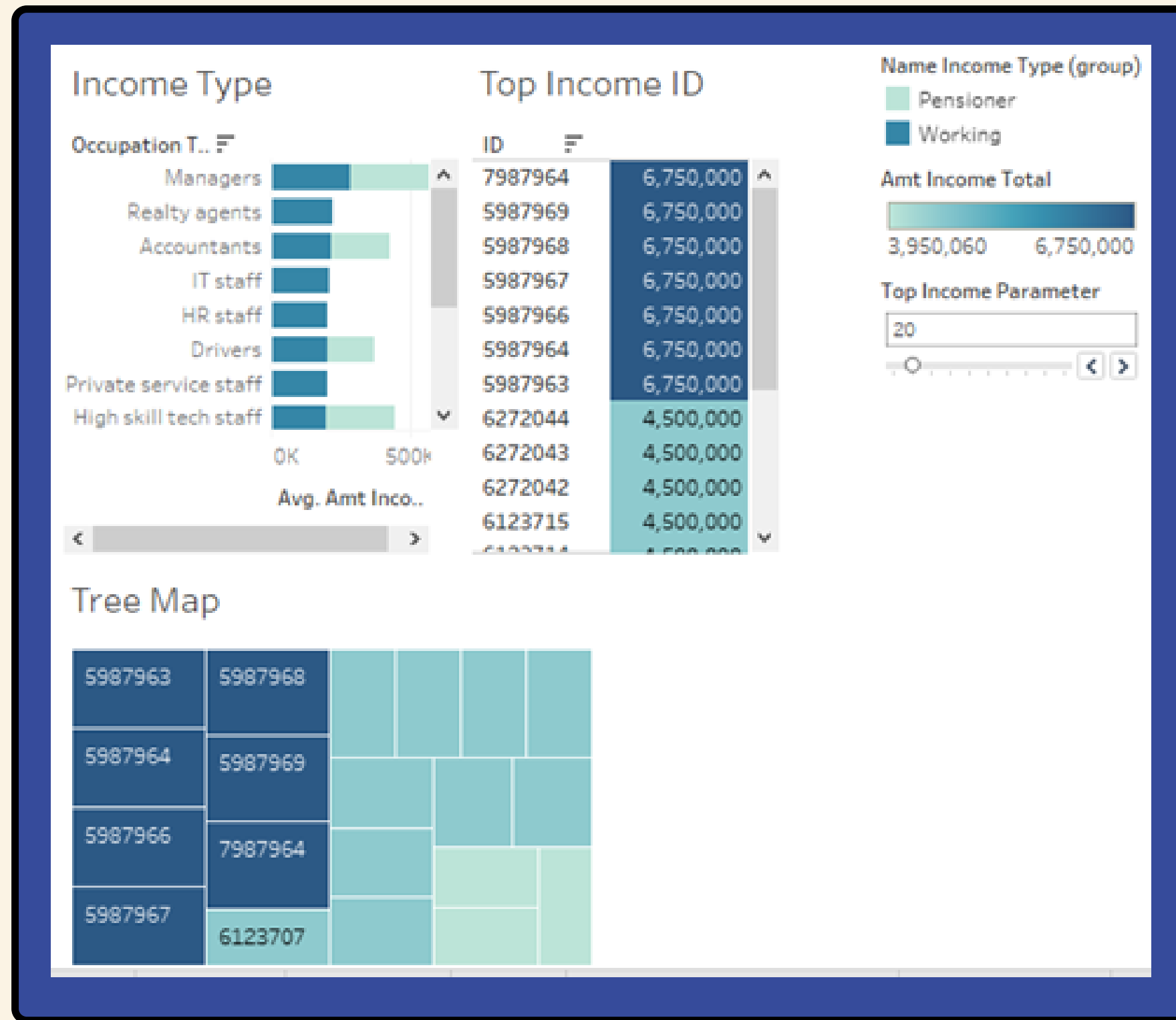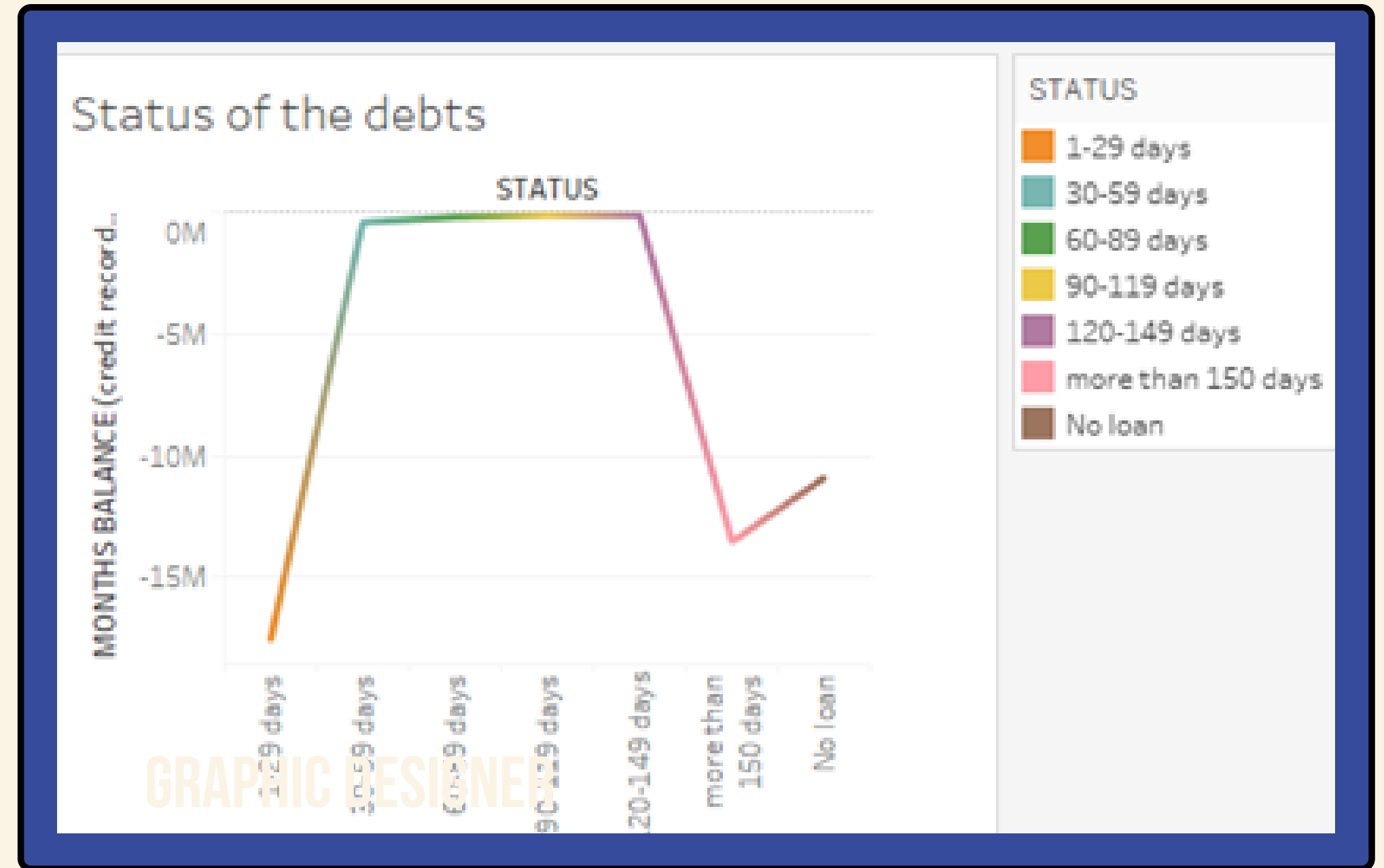
DASHBOARD LINK

DEBT STATUS

The starting point of the month of the data is backwards which means '0' is the current month, '-1' is the previous month, and so on.

The debt status of the majority of the applicants lies between 1-29 days. However, there are some applicants whose debt is not paid for more than 150 days. Furthermore, there is a minority of the applicants who have no loan which increases the probability of getting their credit cards approved.

TABLEAU LINK

Status of the debts

STATUS

MONTHS BALANCE (credit record..

0M

-5M

-10M

-15M

1-29 days | 30-59 days | 60-89 days | 90-119 days | 120-149 days | more than 150 days | No loan

STATUS
- 1-29 days
- 30-59 days
- 60-89 days
- 90-119 days
- 120-149 days
- more than 150 days
- No loan

BALANCE OF MONTHS WITH INCOME

The females tend to have a higher total income and also higher number of months for the credit balance. However, over time, their credit balance of months goes down.

In December, the females earn up to 6 billion rupees in total which could include their bonuses, hence, in January, they were able to pay off some of their debt.
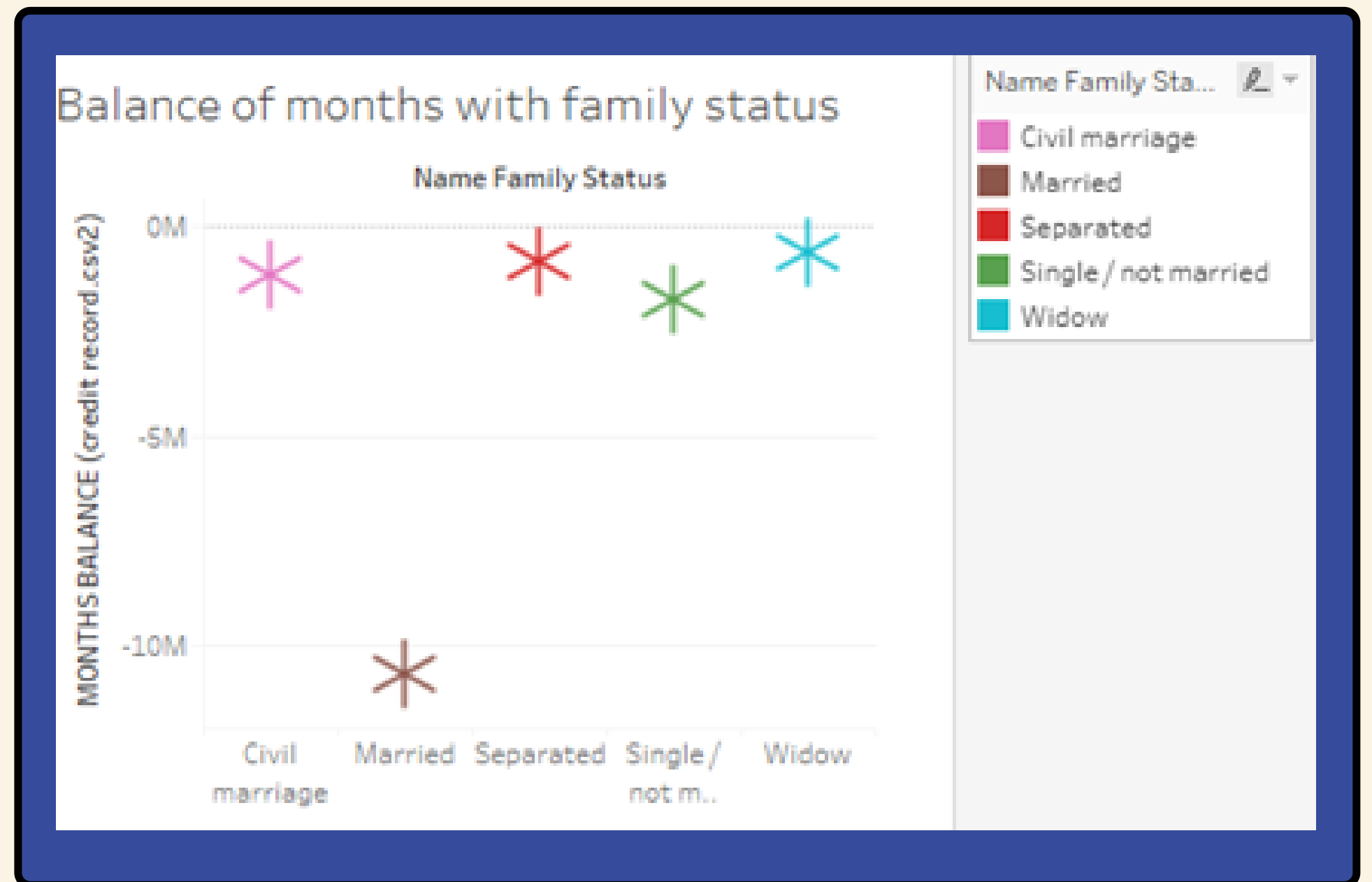
TABLEAU LINK

Balance of months with Income

Code Gender
Female
Male
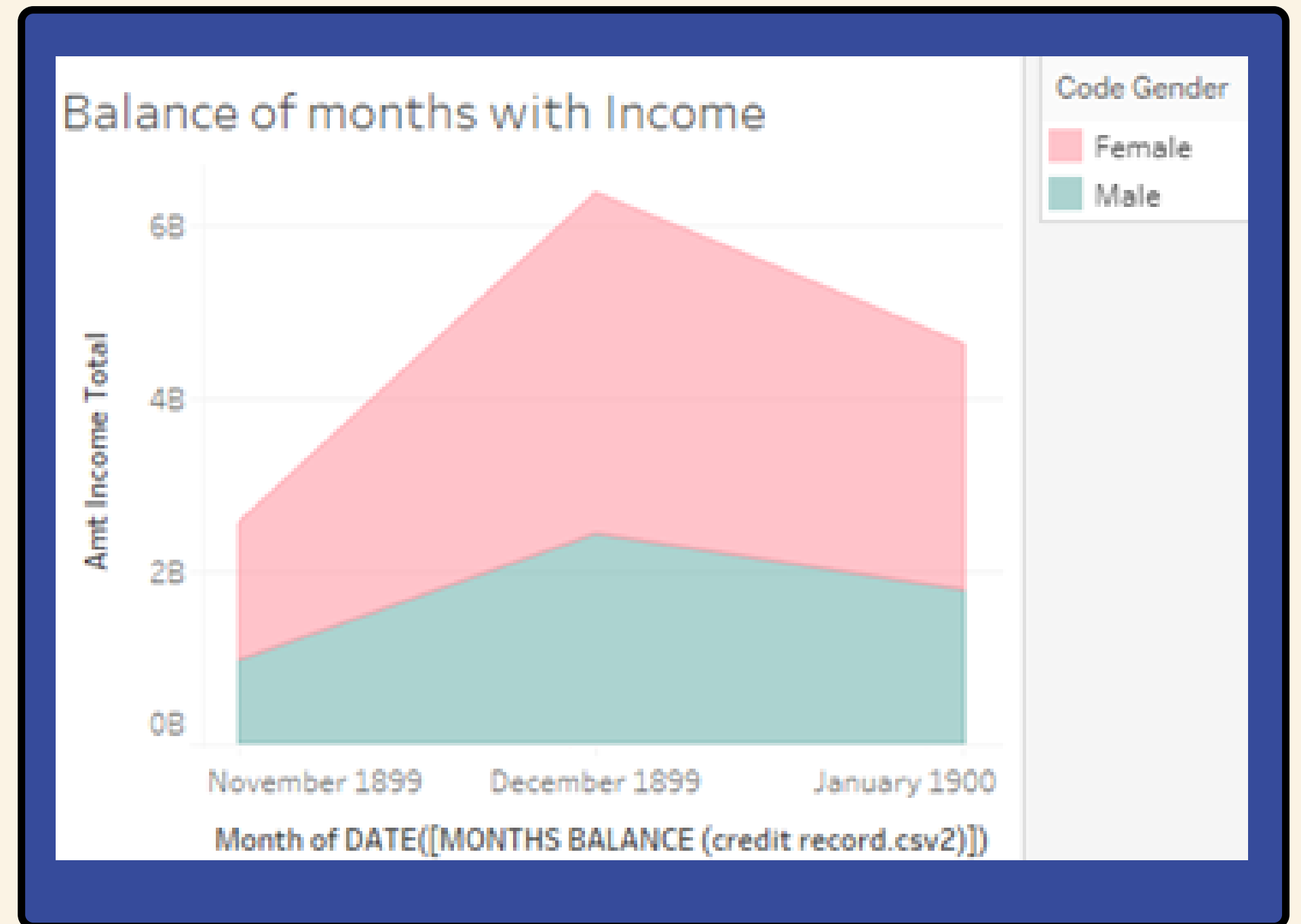
BALANCE OF MONTHS WITH FAMILY STATUS

The married applicants had more debt compared to others. It could be because of all the expenses they encounter that they were unlikely to pay off their debt and it accumulated in the end.

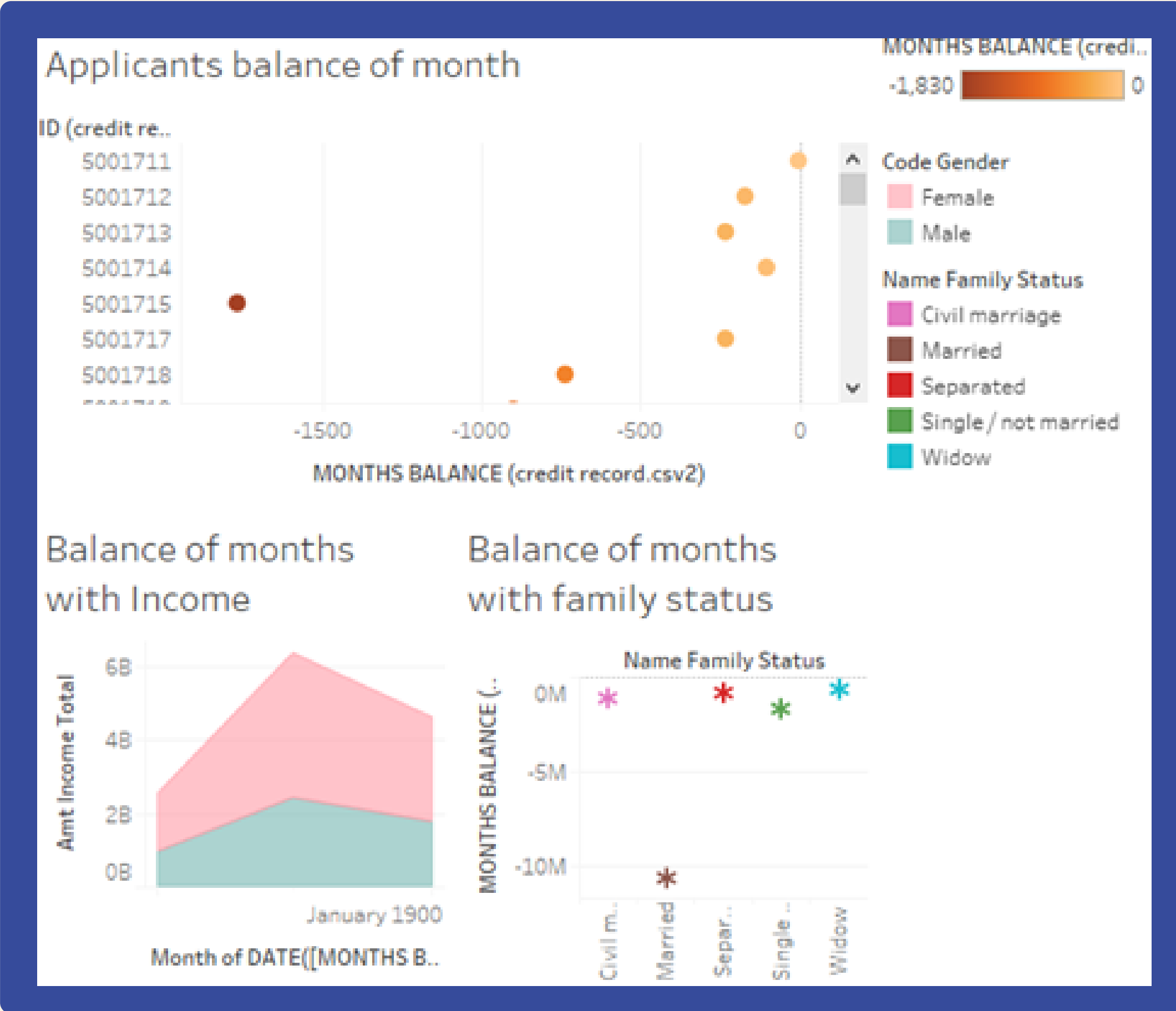Balance of months with family status

BALANCE OF MONTHS

Each applicant has some credit balance that ranges from 0 to 61 months.

The females have lower credit balance for months compared to the males.

The married ones have a higher debt rate followed by the single ones and then the ones in a civil marriage.

<u>**DASHBOARD LINK**</u>

CREDIT CARD APPROVAL PREDICTION ANALYSIS

The banks tend to look at the income of the applicant when deciding on whether they should issue a credit card.

They also look at the applicants occupation to know if they are in a position where they are able to pay off any debt in the near future which increases the approval rate if you are in a high ranking position.

Whether the applicant has any debt before the application is something the banks search for so as to find out if the applicant is in an debt beforehand.

THANK YOU

TABLEAU STORY