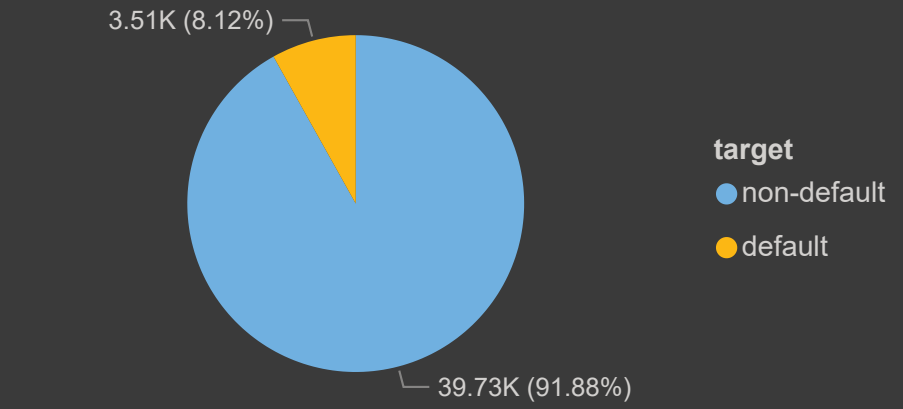


Users divided by default label



Users divided by chosen field

name_housing_type	target	Count of target
Co-op apartment	default	15
House / apartment	default	2986
Municipal apartment	default	157
Office apartment	default	20
Rented apartment	default	77
With parents	default	255
Co-op apartment	non-default	139
House / apartment	non-default	35403
Municipal apartment	non-default	1394
Office apartment	non-default	324
Total		43244

status default	
default	non-default
filter base on car ownership	
N	Y
filter base on realty ownership	
N	Y

Filter base on type suite

(Blank)	Other_A
Children	Other_B
Family	Spouse, partner
Group of people	Unaccompanied

Filter base on occupation type

(Blank)	Drivers
Accountants	High skill tech staff
Cleaning staff	HR staff
Cooking staff	IT staff
Core staff	Laborers

filter base on organization type

Advertising	Business Entity Type 1	Cleaning
Agriculture	Business Entity Type 2	Construction
Bank	Business Entity Type 3	Culture

Filter base on education type

Academic degree	Incomplete higher	Secondary / secondary special
Higher education	Lower secondary	

Filter base on income type

Commercial associate	State servant	Unemployed
Pensioner	Student	Working

Filter base on gender

F	M	XNA
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Filter base on family status

Civil marriage	Married	Separated	Single / not married
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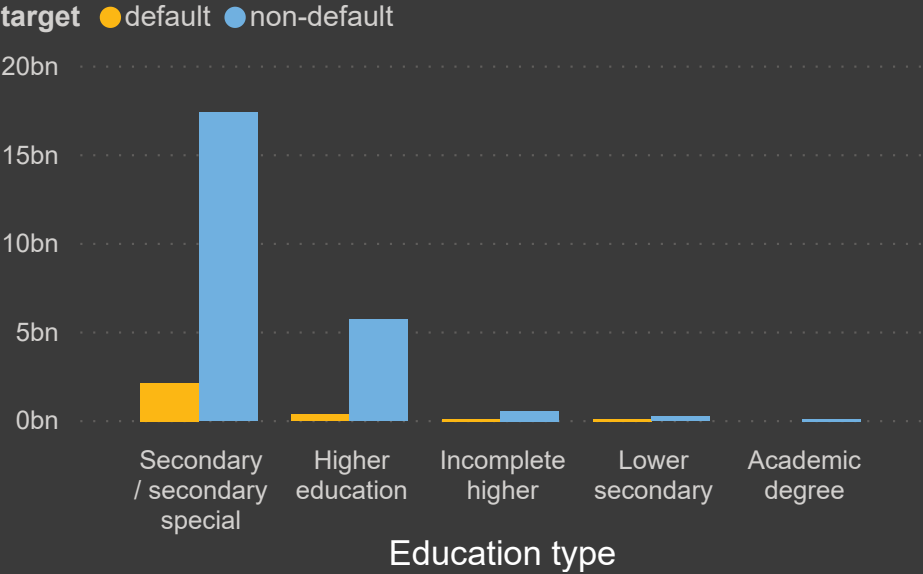
filter base on contract type

Cash loans	Revolving loans
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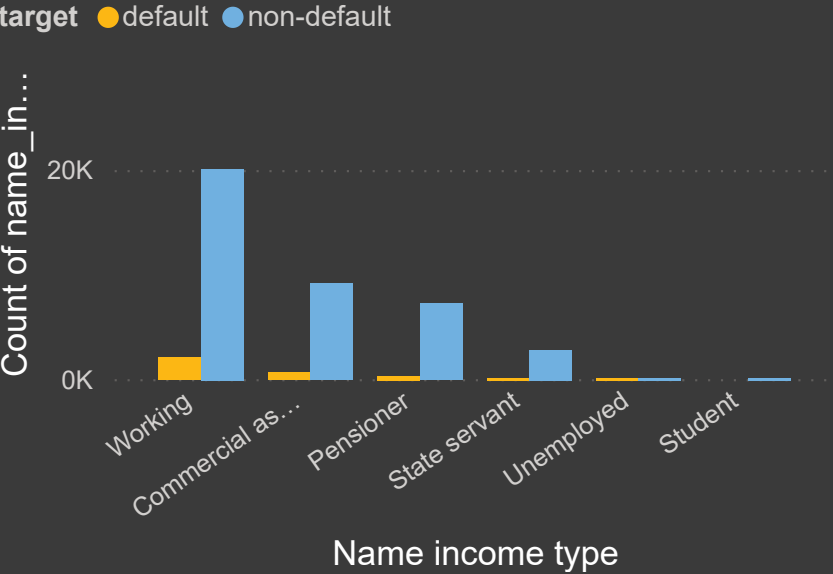
Filter base on housing type

Co-op apartment	Office apartment
House / apartment	Rented apartment
Municipal apartment	With parents

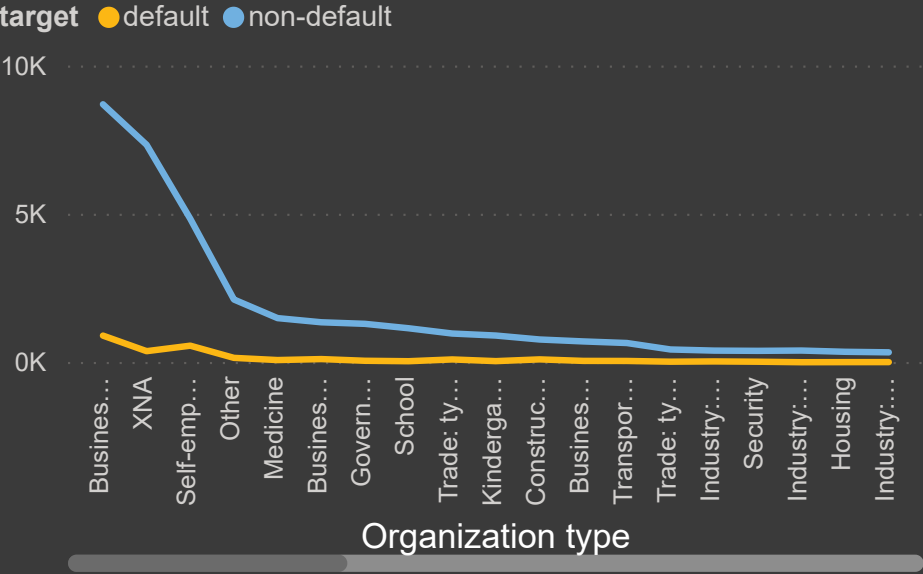
Education type of target the users



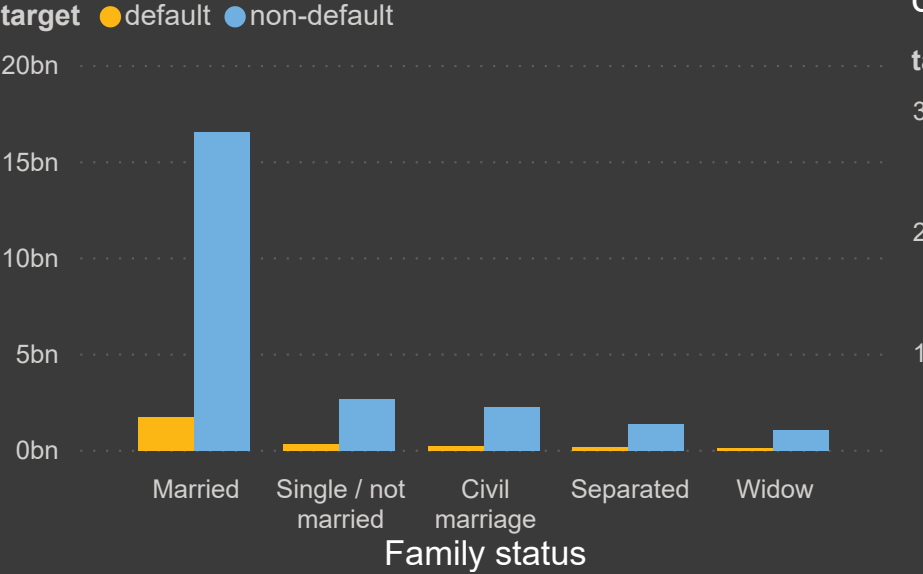
Name income type of the users



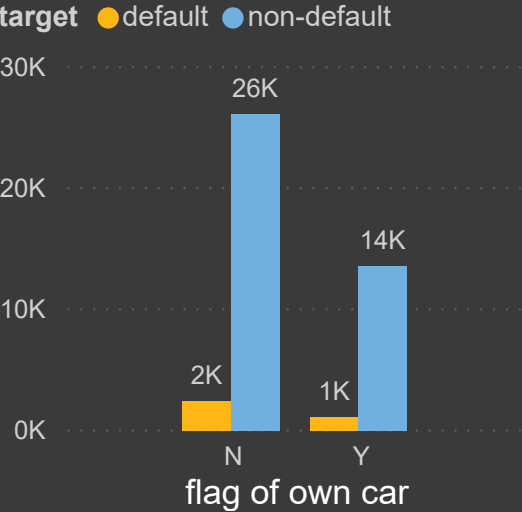
Organization type of the users



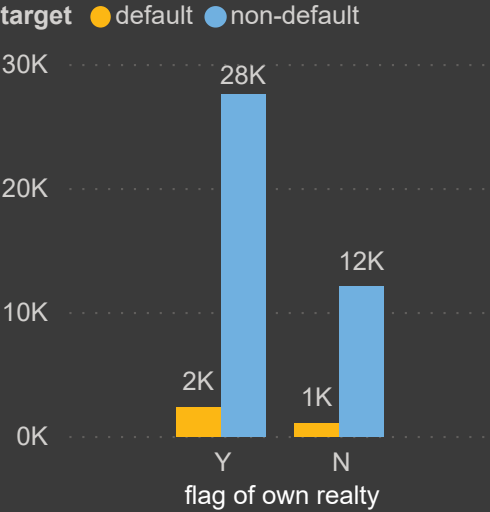
Family status of target the users



Users divided by own car and default label



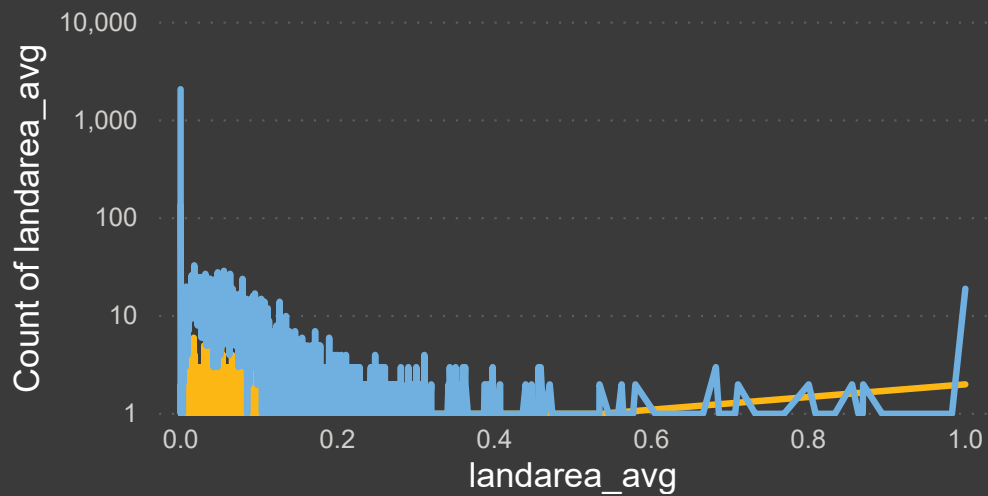
Users divided by own realty and default label



name_income_type	target	Count of amt_credit
Commercial associate	default	765
Pensioner	default	398
State servant	default	158
Unemployed	default	2
Working	default	2187
Commercial associate	non-default	9267
Pensioner	non-default	7360
State servant	non-default	2901
Student	non-default	1
Unemployed	non-default	3
Working	non-default	20202
Total		43244

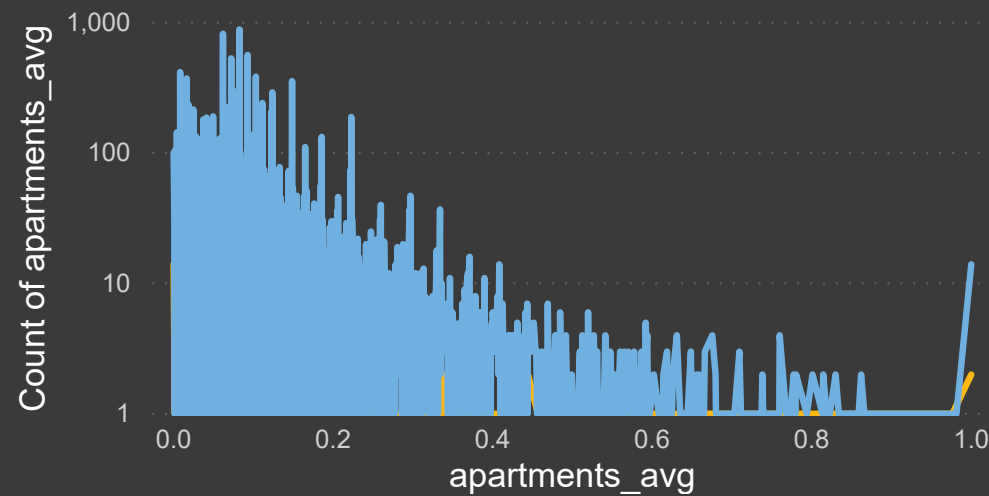
### land area (avg)

target ● default ● non-default



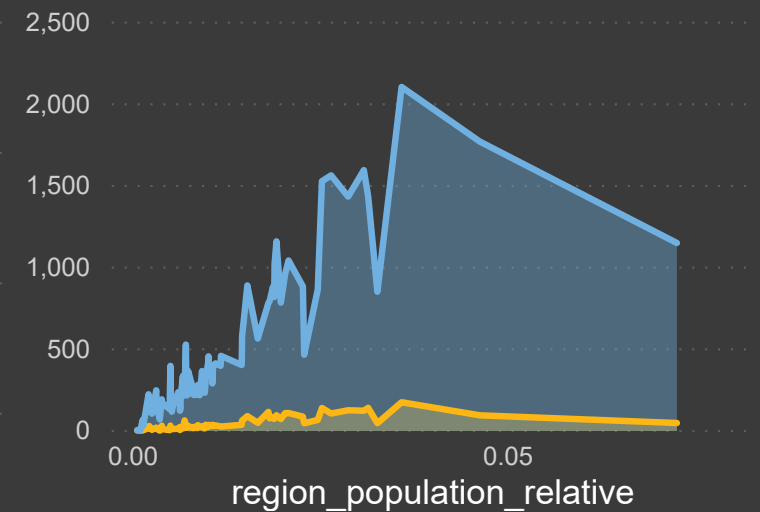
### Apartments (avg)

target ● default ● non-default



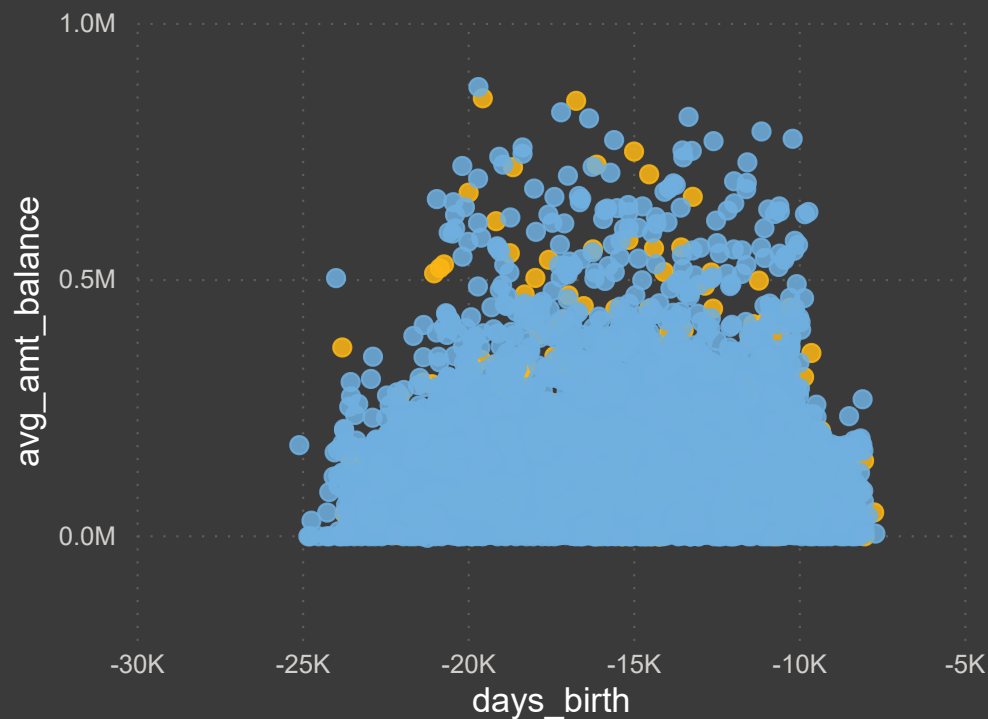
### Region population relative

target ● default ● non-default



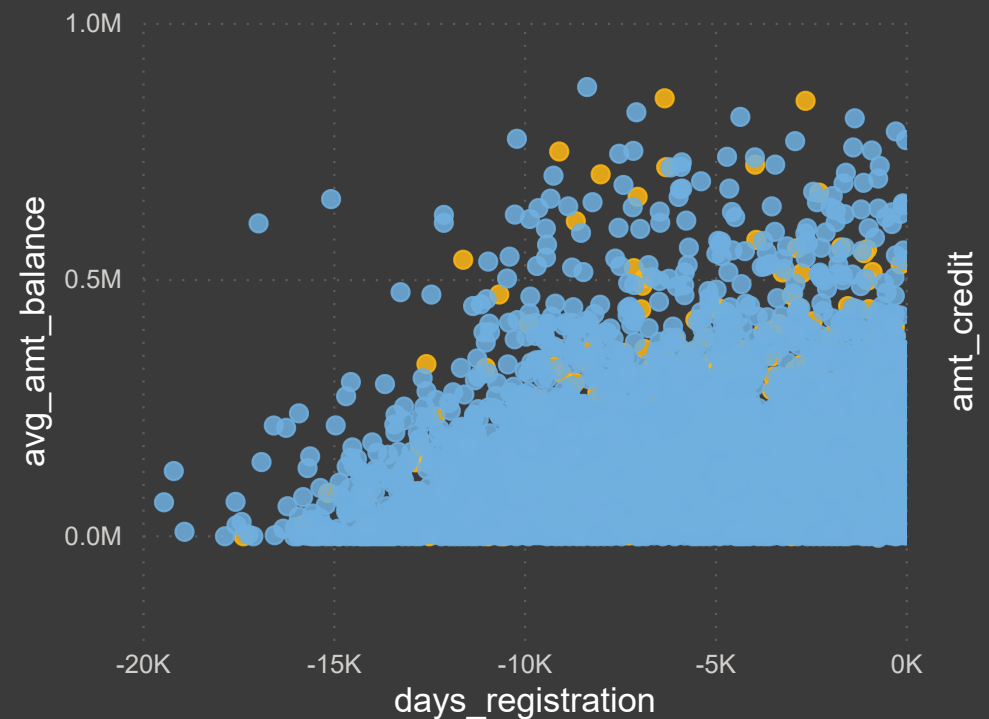
### days birth vs avg amt balance

target ● default ● non-default



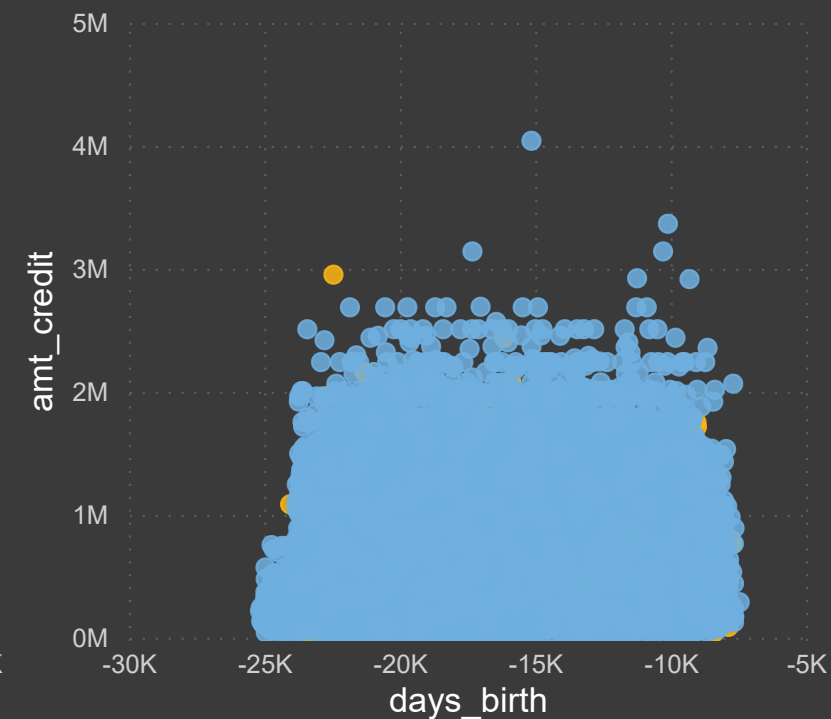
### days registration vs avg amt balance

target ● default ● non-default

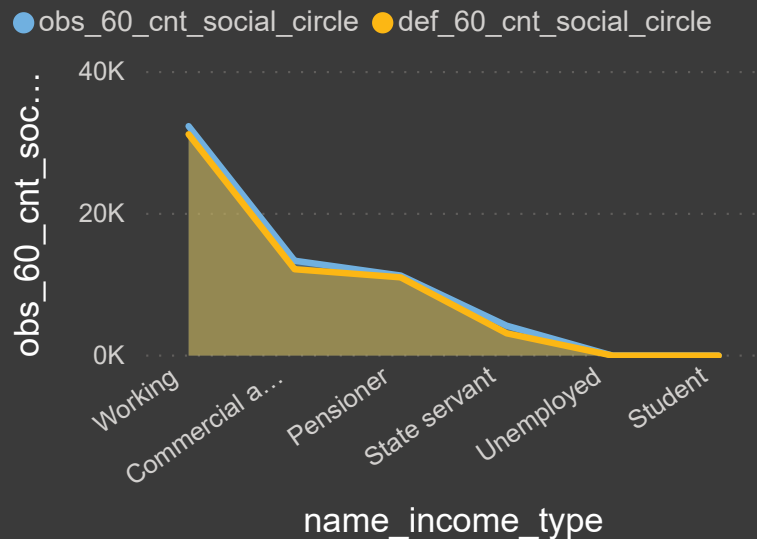


### days last phone change vs avg amt balance

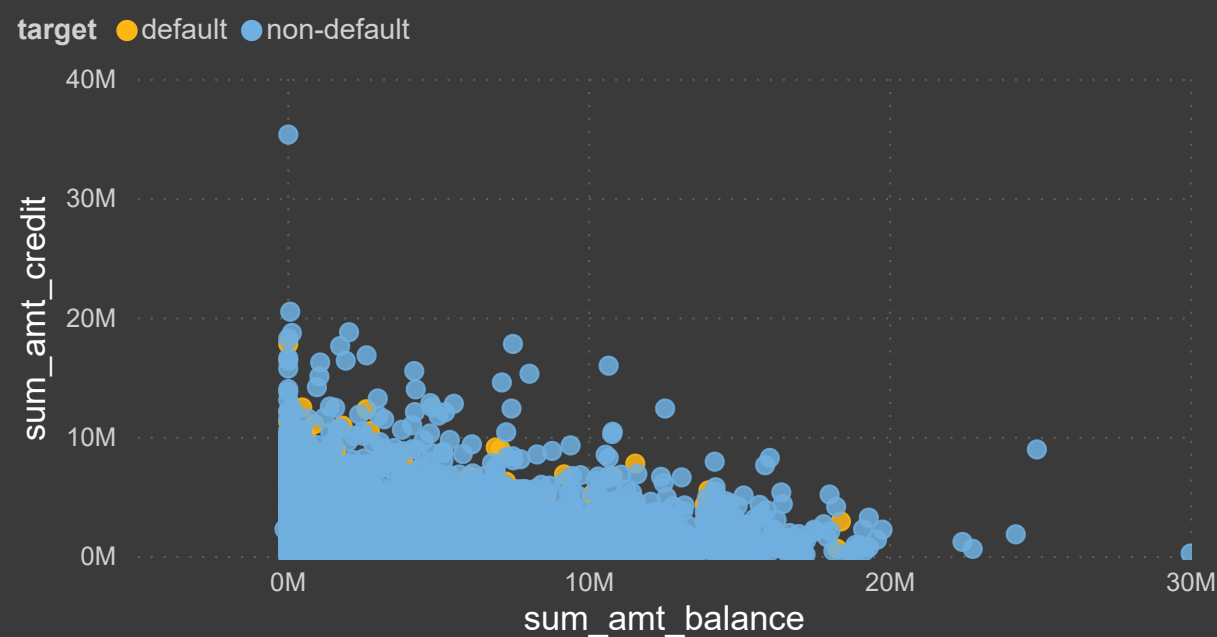
target ● default ● non-default



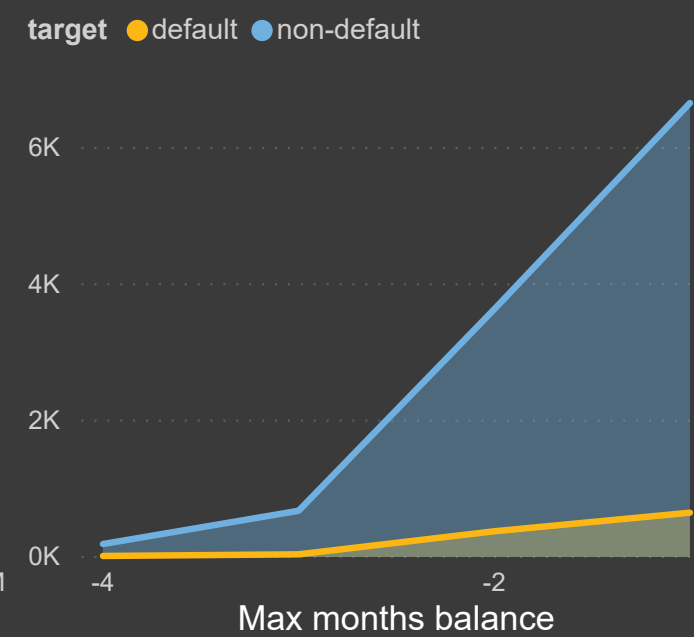
How many observation of client's social surroundings with observable 60 DPD default vs income type



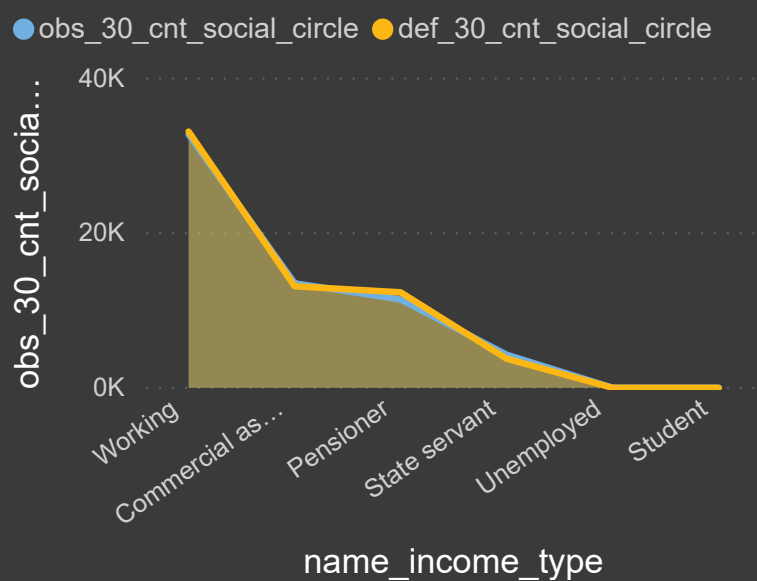
amt balance vs amt credit



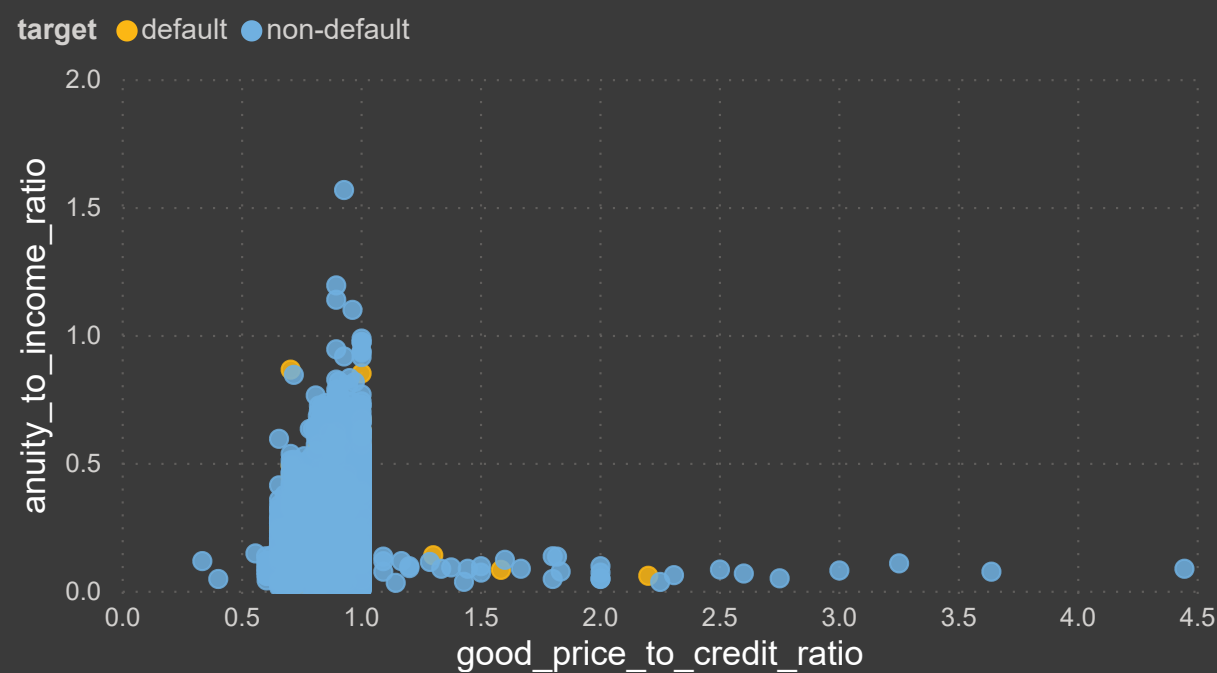
Max months balance of the users



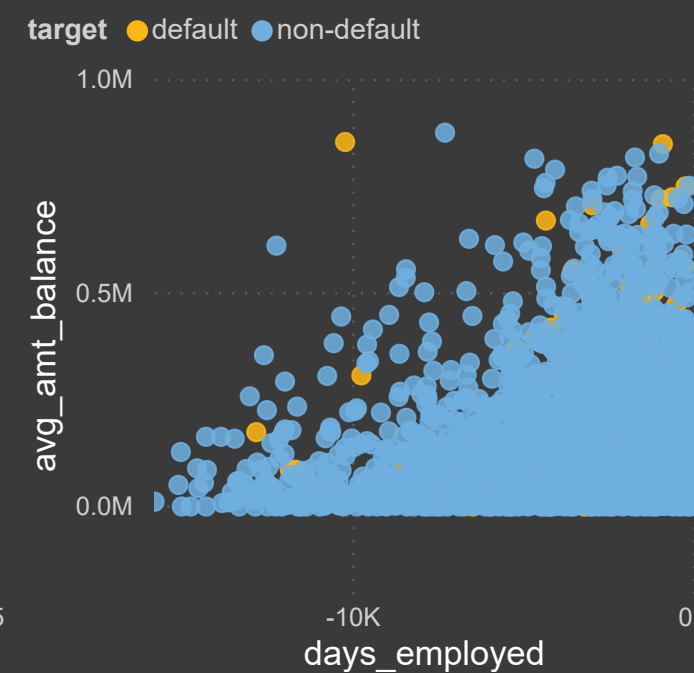
How many observation of client's social surroundings with observable 30 DPD default vs income type



good price to credit ratio vs anuity to income ratio

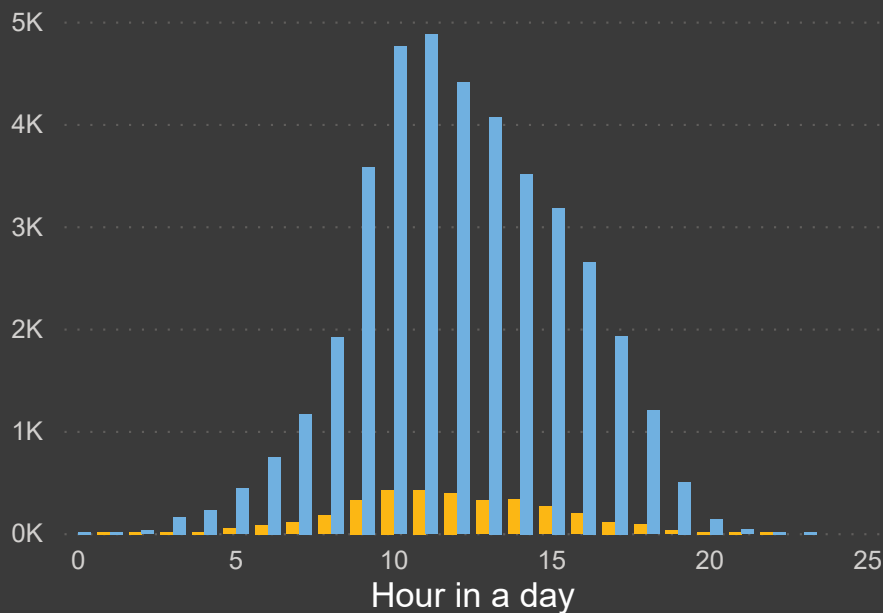


days employed vs avg amt balance



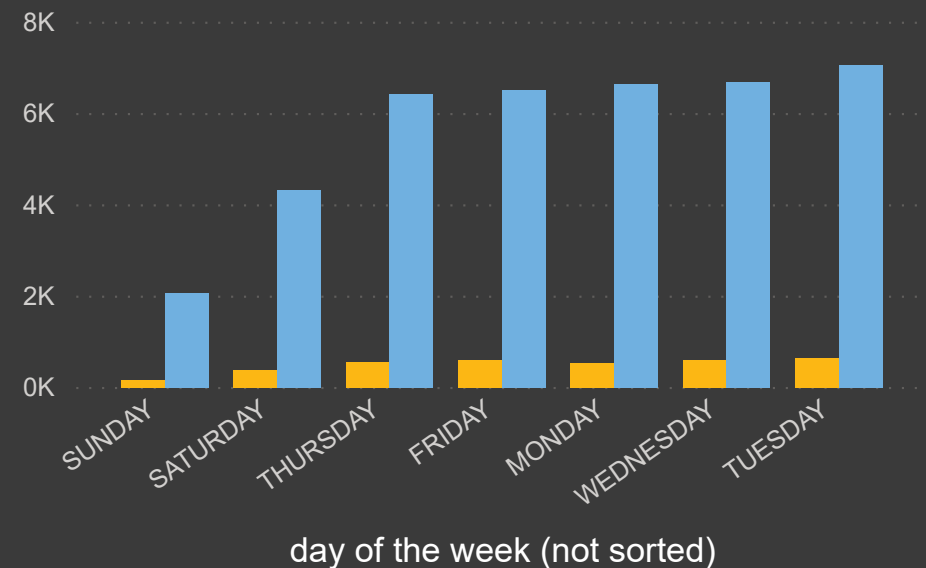
At what hour did the client apply the most?

target ● default ● non-default



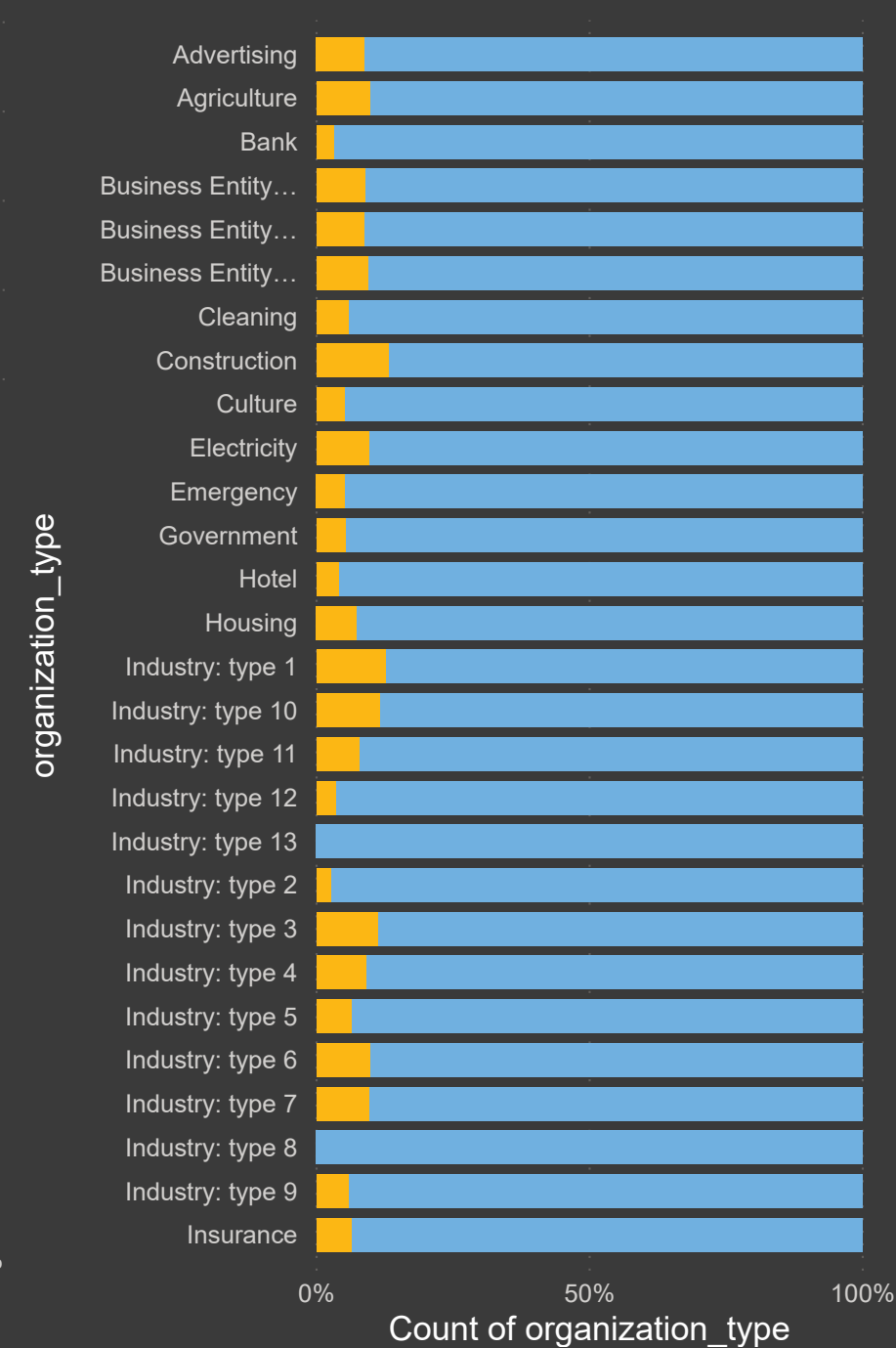
On which day of the week did the client apply the most?

target ● default ● non-default



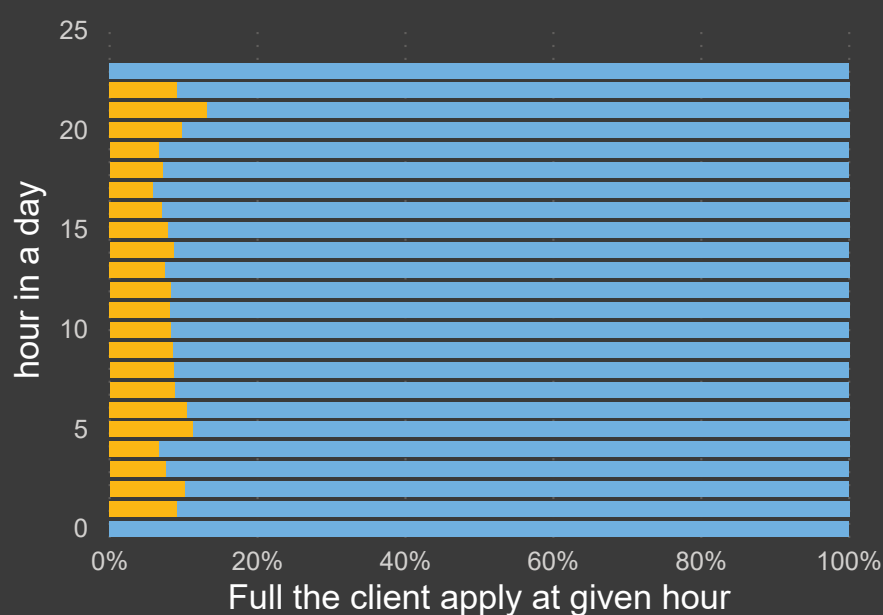
Count of organization\_type by organization\_type and target

target ● default ● non-default



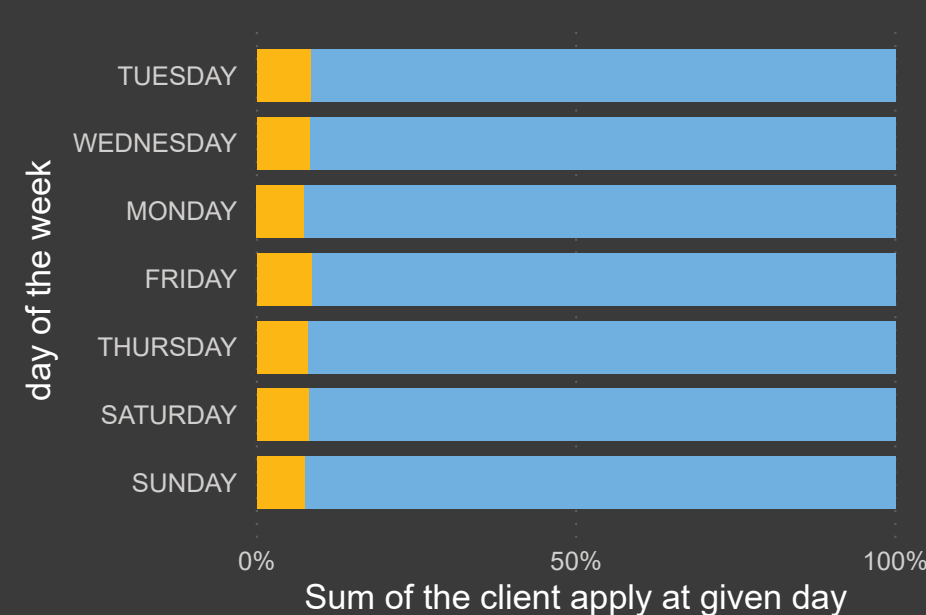
Ratio between the default label in every hour

target ● default ● non-default

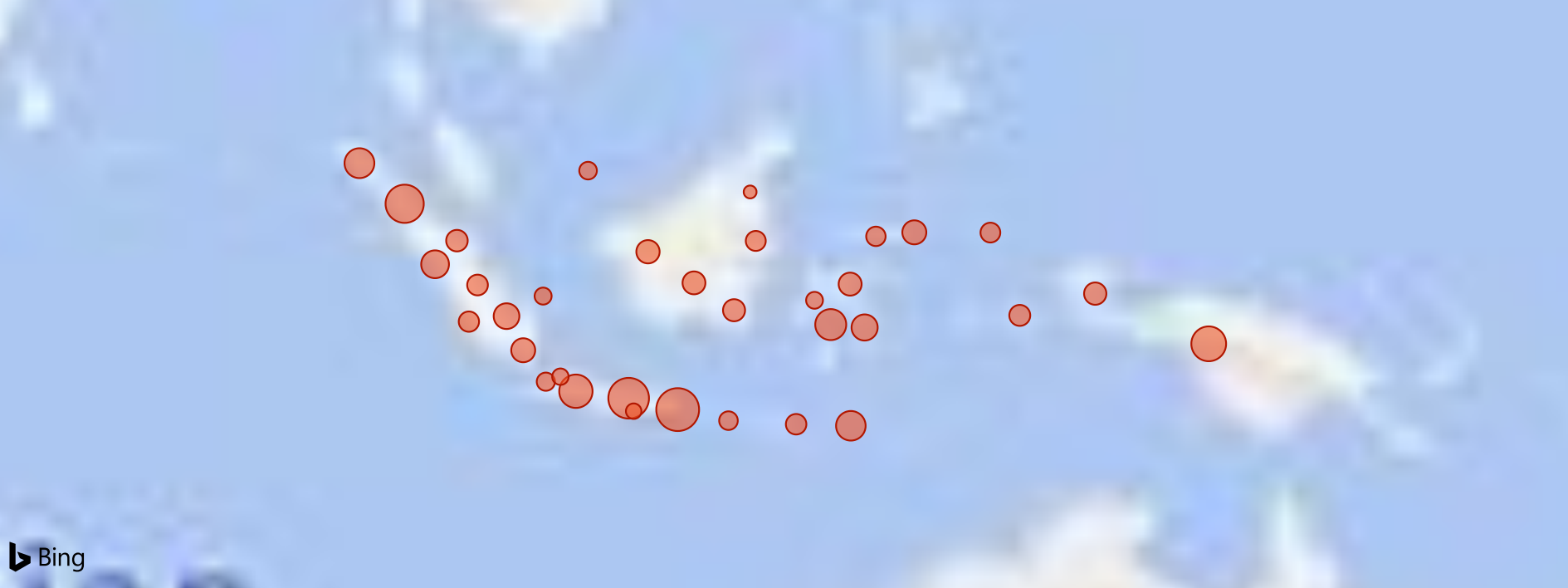


Ratio between the default label in everyday

target ● default ● non-default



count\_approved\_prev by provinsi



provinsi	target	Count of target
ACEH	default	
ACEH	non-default	1
BALI	default	
BALI	non-default	
BANTEN	default	
BANTEN	non-default	
BENGKULU	default	
BENGKULU	non-default	
GORONTALO	default	
GORONTALO	non-default	
JAKARTA	default	
JAKARTA	non-default	
JAMBI	default	
JAMBI	non-default	
JAWA BARAT	default	
Total		43

provinsi and kabupaten\_kota

kabupaten\_kota   ● Aceh ...   ● Aceh ...   ● Aceh ...   ● Aceh J...   ● Aceh ...   ● Aceh ...   ● Aceh T...   ● Aceh T...   ● Aceh Ti...



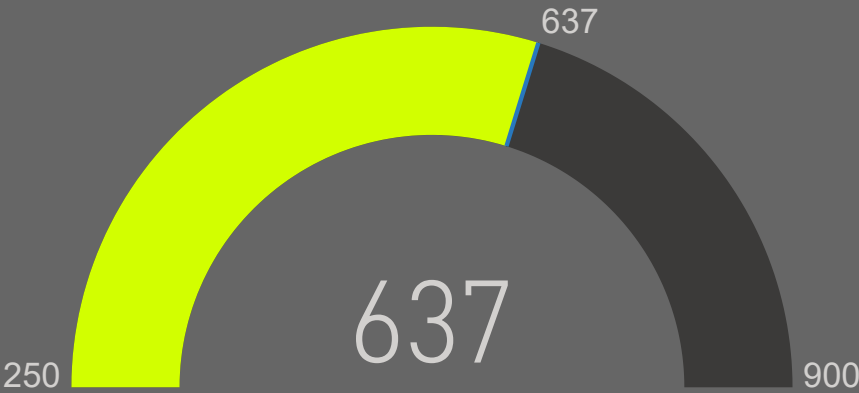
kabupaten_kota	target	Count of target
Jayapura	non-default	145
Jeneponto	non-default	103
Kepulauan Mentawai	non-default	103
Sikka	non-default	102
Kota Tual	non-default	102
Kolaka	non-default	100
Tapin	non-default	100
Takalar	non-default	98
Dogiyai	non-default	97
Kota Pariaman	non-default	97
Majalengka	non-default	96
Parigi Moutong	non-default	96
Kota Bima	non-default	96
Karawang	non-default	95
Konawe Utara	non-default	95
Malinau	non-default	95
Total		43244

Machine Learning Method

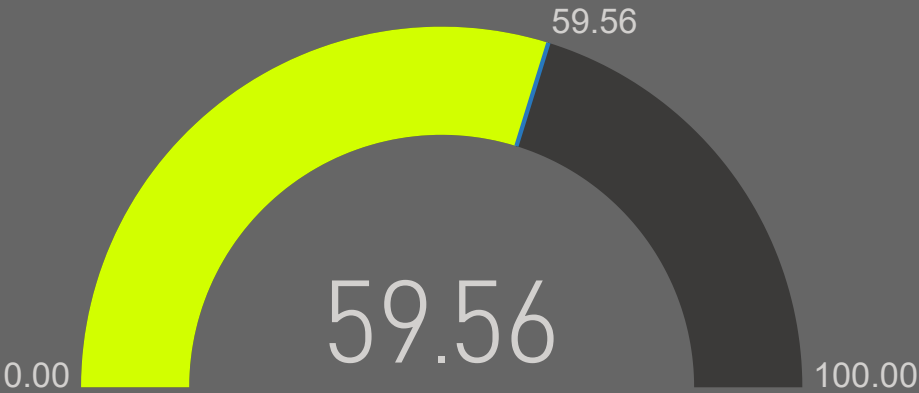
123456789

Iutfi h

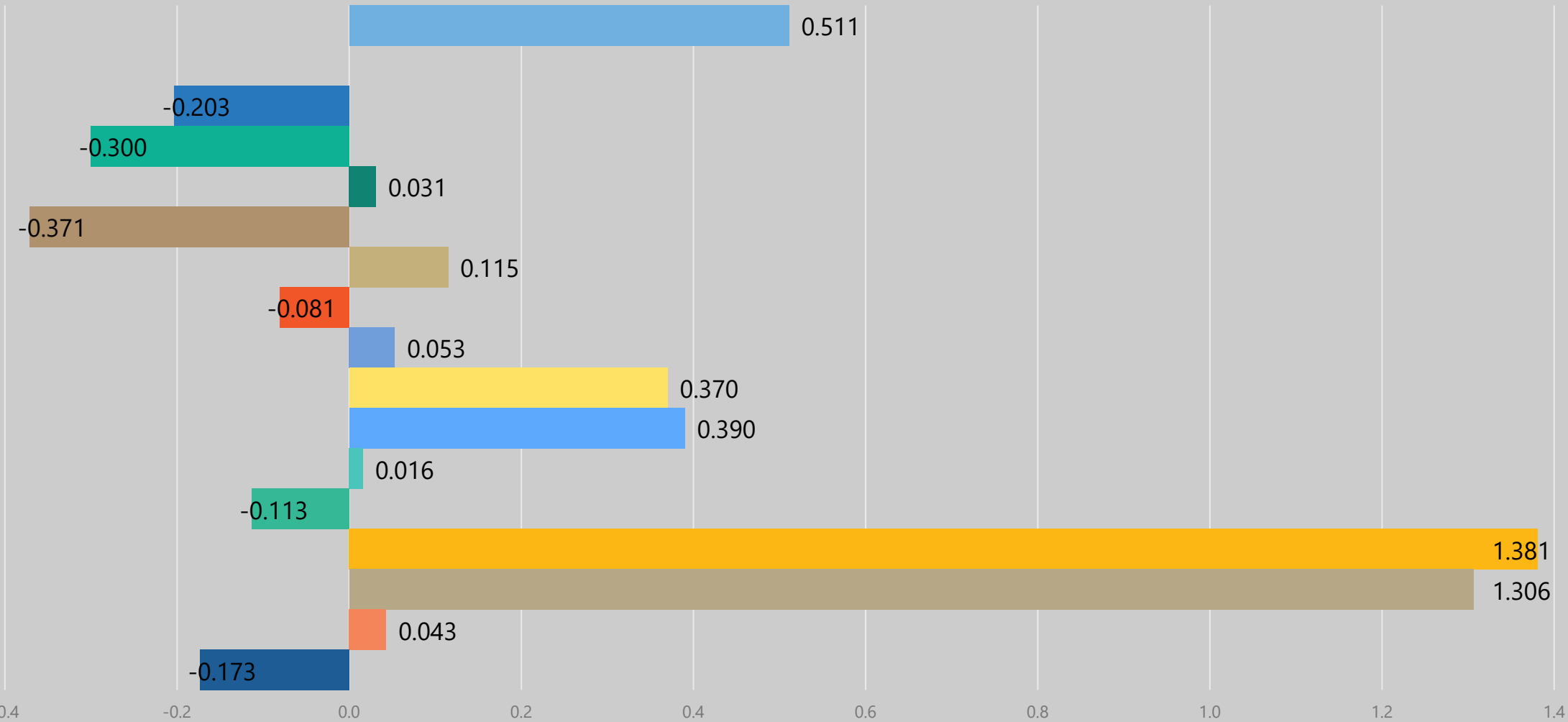
Score



Prob topay



- Feature
- good\_price\_to\_credit\_ratio
  - avg\_days\_first\_drawing
  - avg\_days\_enddate\_fact
  - avg\_days\_credit\_update
  - avg\_amt\_annuity\_prev
  - count\_hc\_reject\_prev
  - count\_prev\_pos
  - count\_short\_term
  - count\_refused\_prev
  - days\_birth
  - days\_employed
  - days\_id\_publish
  - days\_last\_phone\_change
  - ext\_source\_2
  - ext\_source\_3
  - max\_rate\_down\_payment
  - amt\_goods\_price

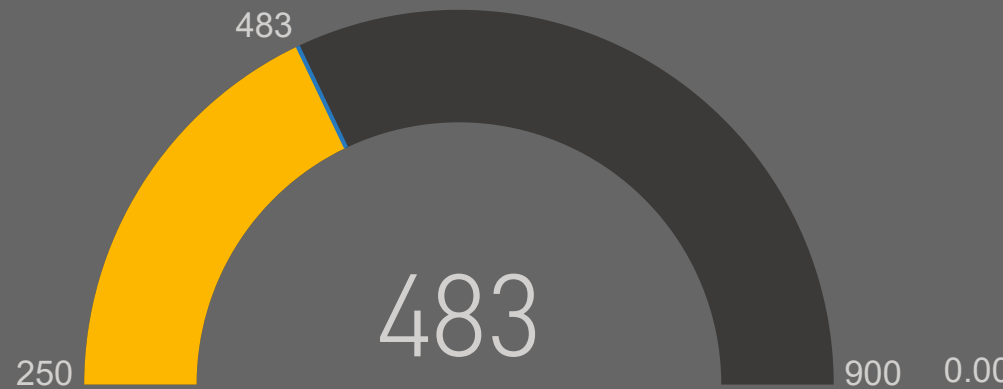


Traditional Method

123456789

Iutfi h

Score



Prob topay



Feature

- amt\_goods\_price
- avg\_amt\_balance
- avg\_amt\_drawings\_current
- avg\_days\_credit
- avg\_drawings\_atm\_current
- avg\_days\_first\_drawing
- avg\_months\_balance
- Average of reg\_city\_not\_work\_city
- Average of region\_rating\_client\_w\_city
- code\_gender
- count\_refused\_prev
- count\_walkin\_prod\_type\_prev
- credit\_to\_price\_ratio
- max\_cnt\_drawings\_current
- days\_employed
- ext\_source\_1
- ext\_source\_2
- ext\_source\_3

