

### KIVA LOAN ANALYSIS

Our goal for this project is to explore and visualize insights of micro-finance loans of an online crowd-funding platform using the dataset from Kiva.org. The <https://www.kiva.org/build/data-snapshots> dataset contains information about 'loans' awarded by the non-profit Kiva. We have created a story which reveals the big picture of the kiva loan environment.

Kiva operates in micro finance space, with a mission to expand financial access to help underserved communities. It connects borrowers and lenders in the borrower's country. The key differentiator in Kiva's peer-to-peer lending landscape framework, with its competitors, is, that the crowdfunded payments go directly to borrowers without any interest.

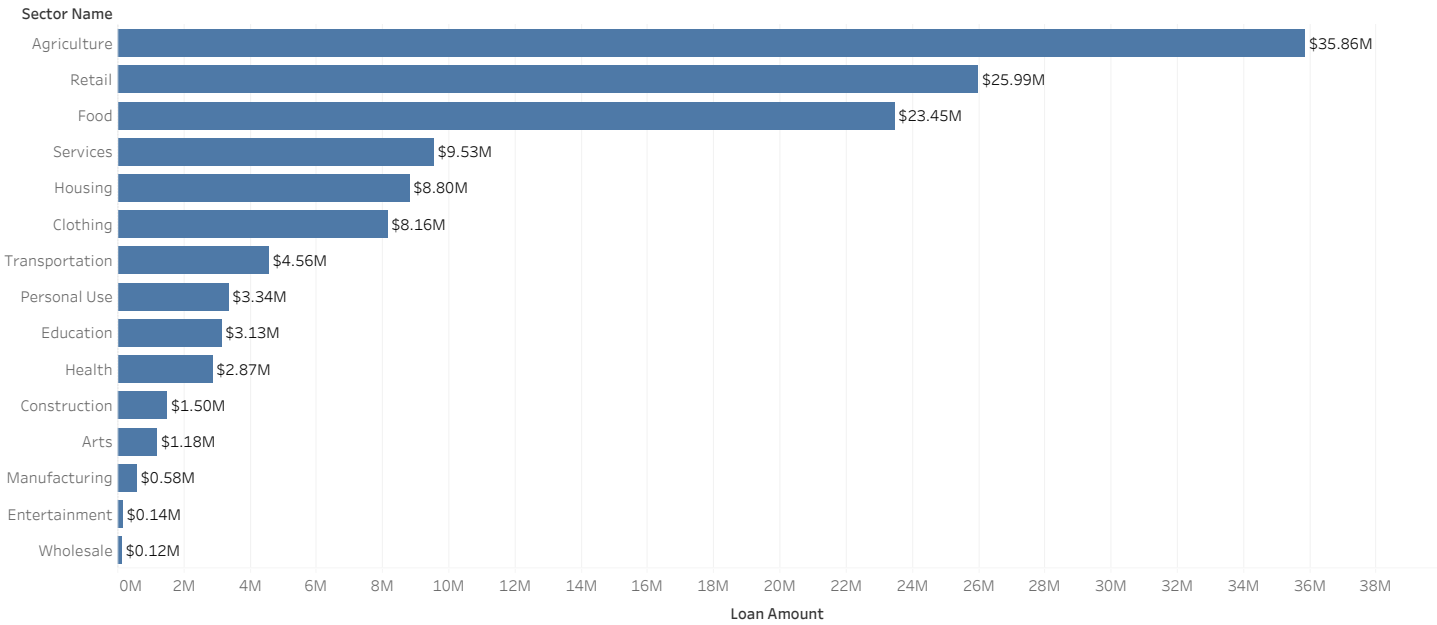
Using Tableau Story Points, we have explored various aspects of Kiva loan data.

- The analysis focuses on the Top 10 countries with highest loans and loan amounts.
- Top 5 countries plotted for lender term against loan amount.
- the top grossing sectors by loan amounts, which are – Agriculture, Retail and Food along with percentage of loan by sectors.
- The gender comparisons and visualized how much women request for loans compared to men.

To better use the information in the dataset, it is important to have a few assumptions:

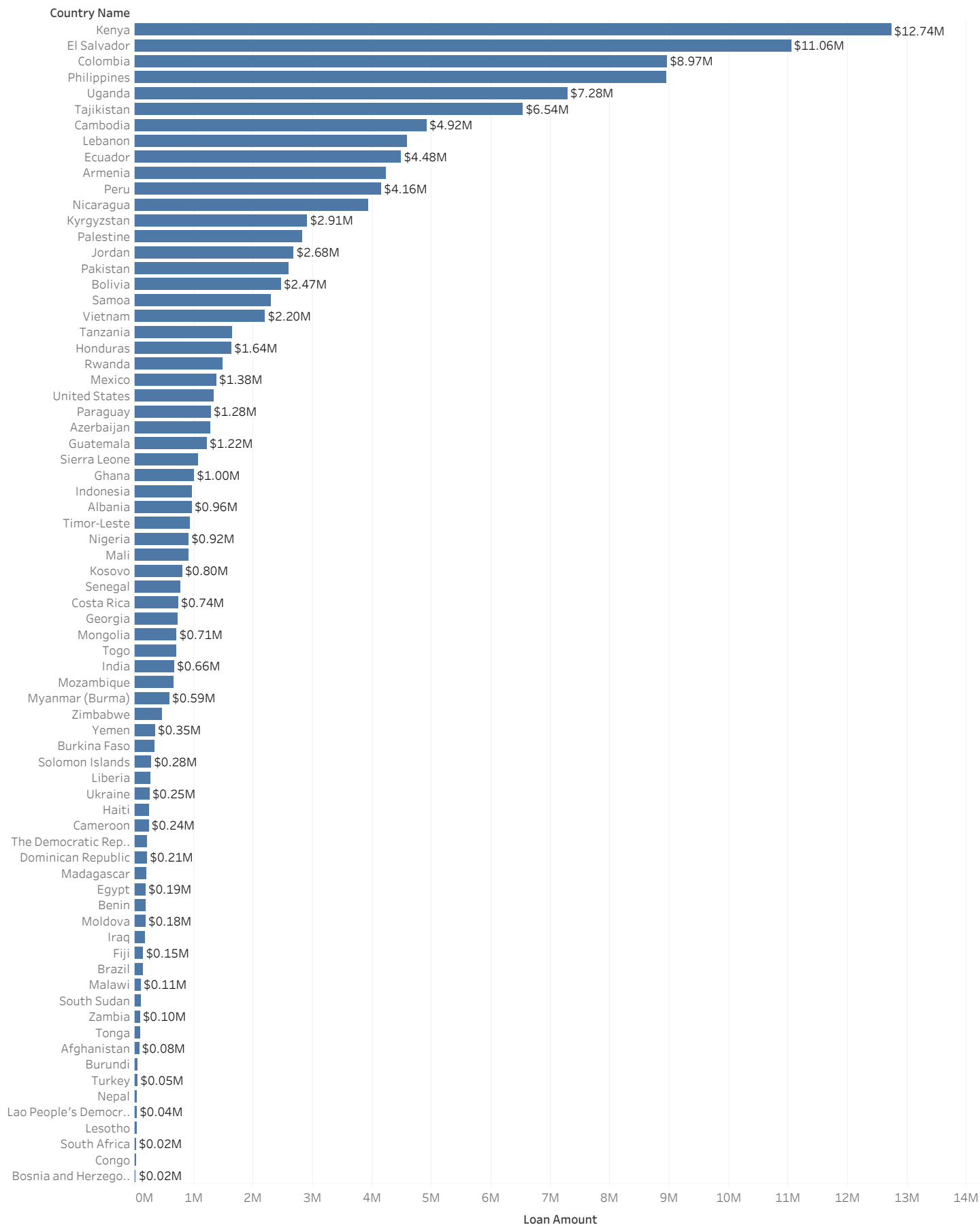
- (1) The dataset is not biased in anyway.
- (2) We assume that all micro-finance practices are being followed through internet mediated micro-finance – which includes micro-lending and micro-borrowing.

Distribution of loan by Sector



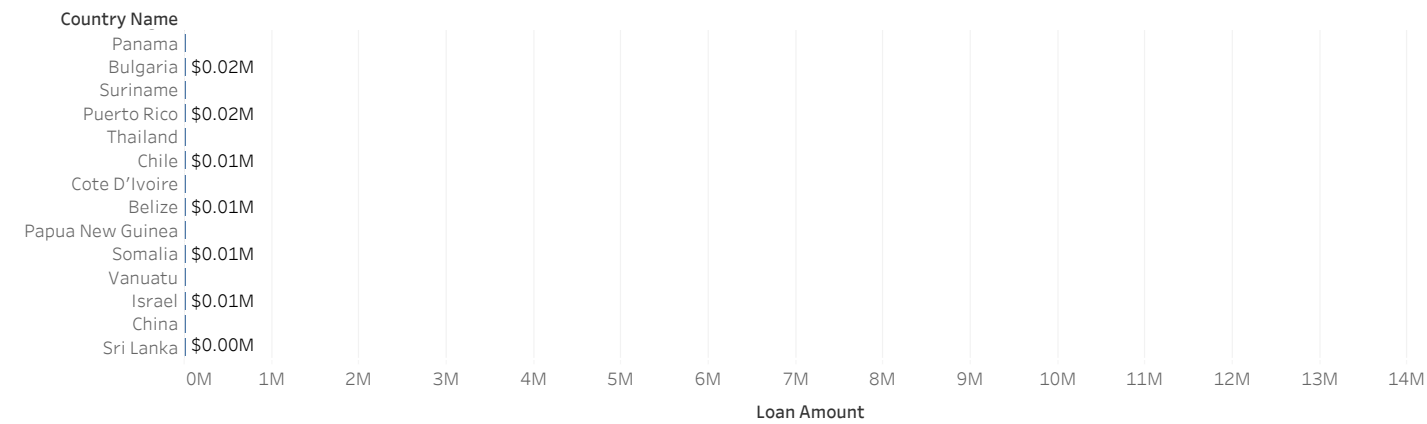
TOP 3 Grossing Sector by Loan Amount are Agriculture,Retail and Food.

Distribution of Loan by Country



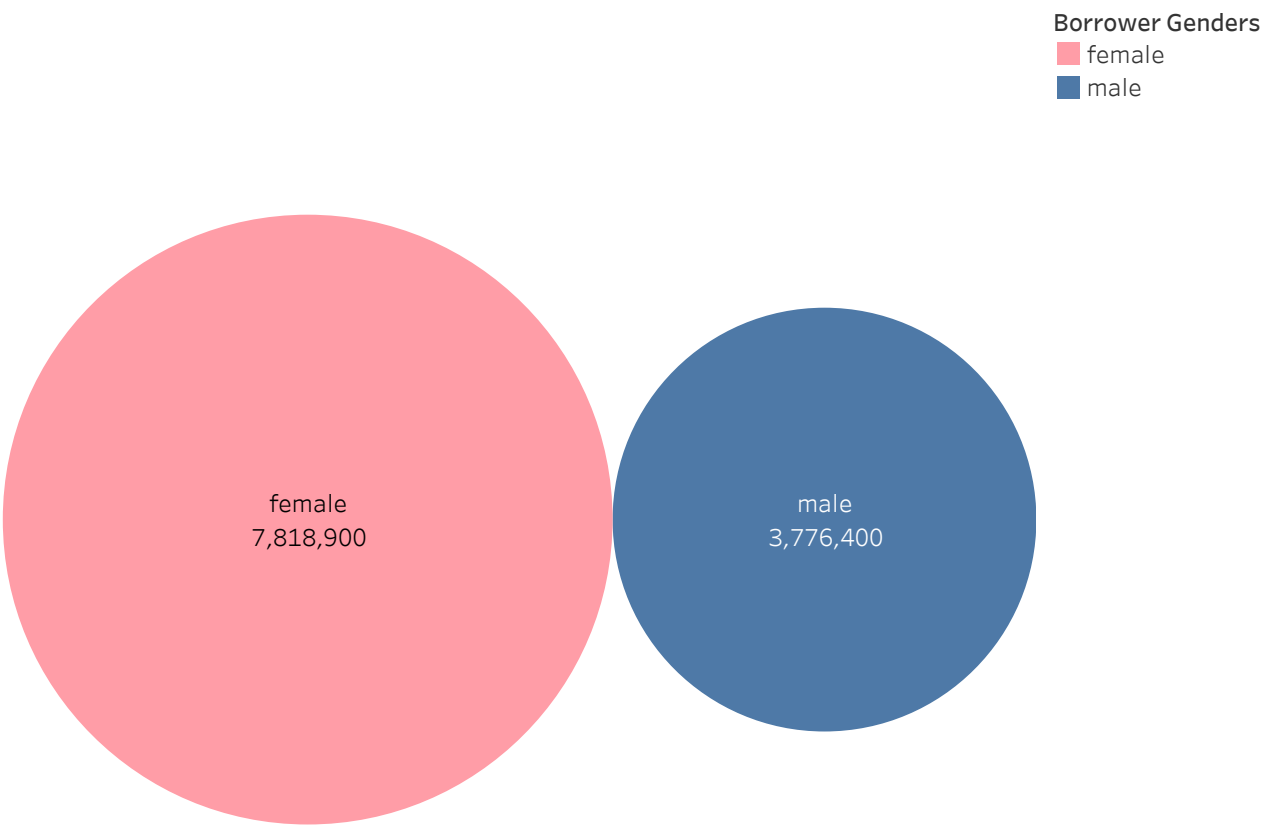
Horizontal bar Graph representing the sum of loan amount for each country. Kenya topping the list.

Distribution of Loan by Country



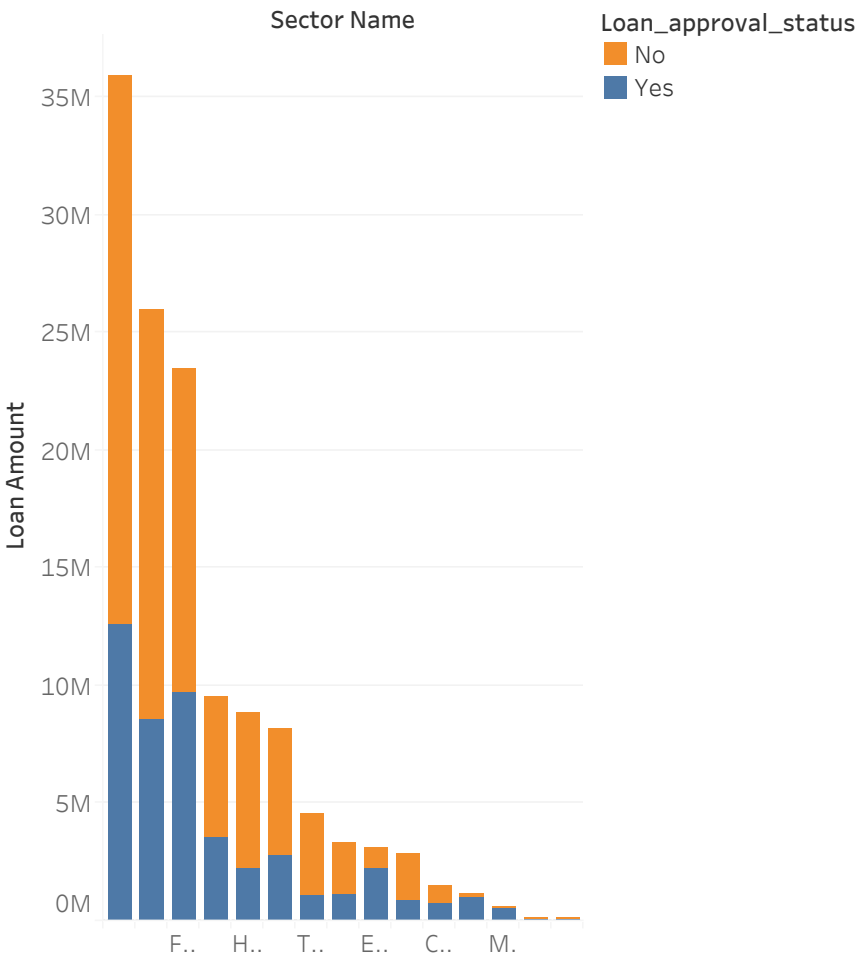
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# Distribution of loan by Gender



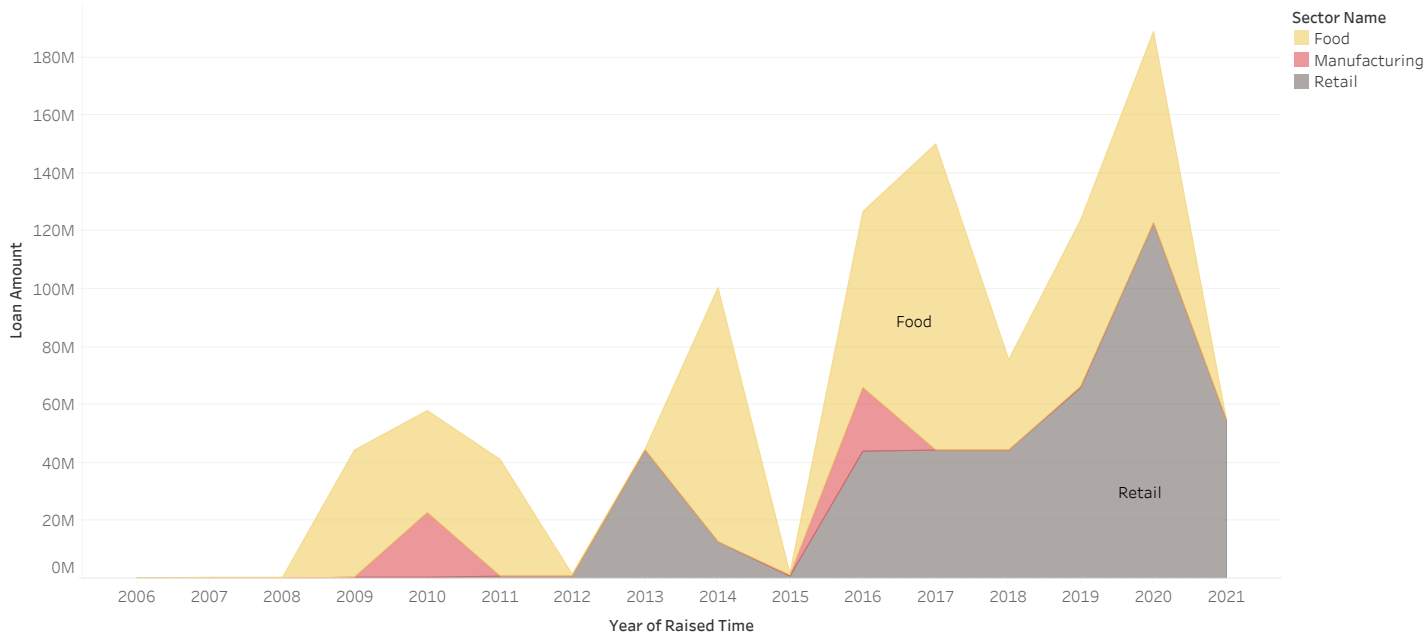
Distribution of loan by Gender. Female borrowers are more than double compared to Male borrowers.

# Loan Approval by Sector



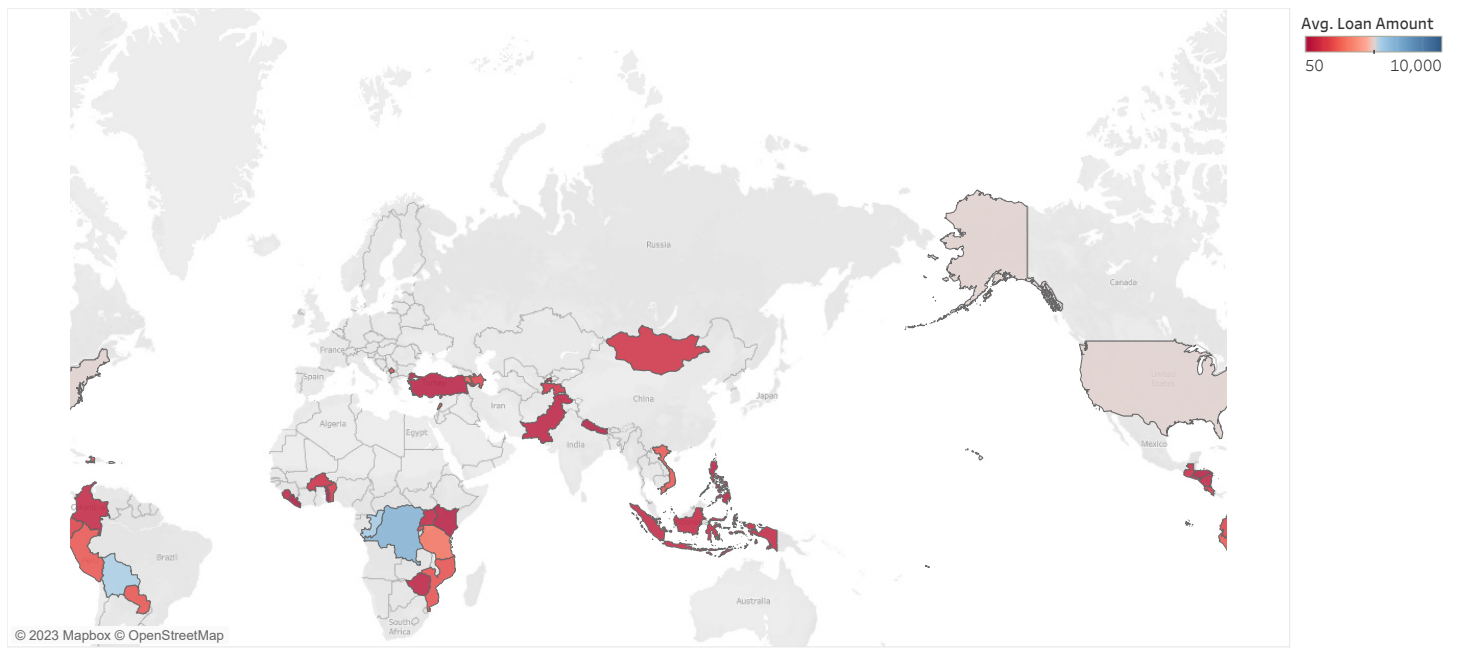
Loan approval by sector.  
Education sector has the highest  
loan approval of all sectors.

Time plot: Loan amount for different sectors



Time plot showing the loan amount from the year 2007 to 2021 for the different sectors. Loan amount for Agriculture and Food sectors increasing over the years.  
\*Dynamic Flitering\*

### Average Loan Amount Of Country Quarterly

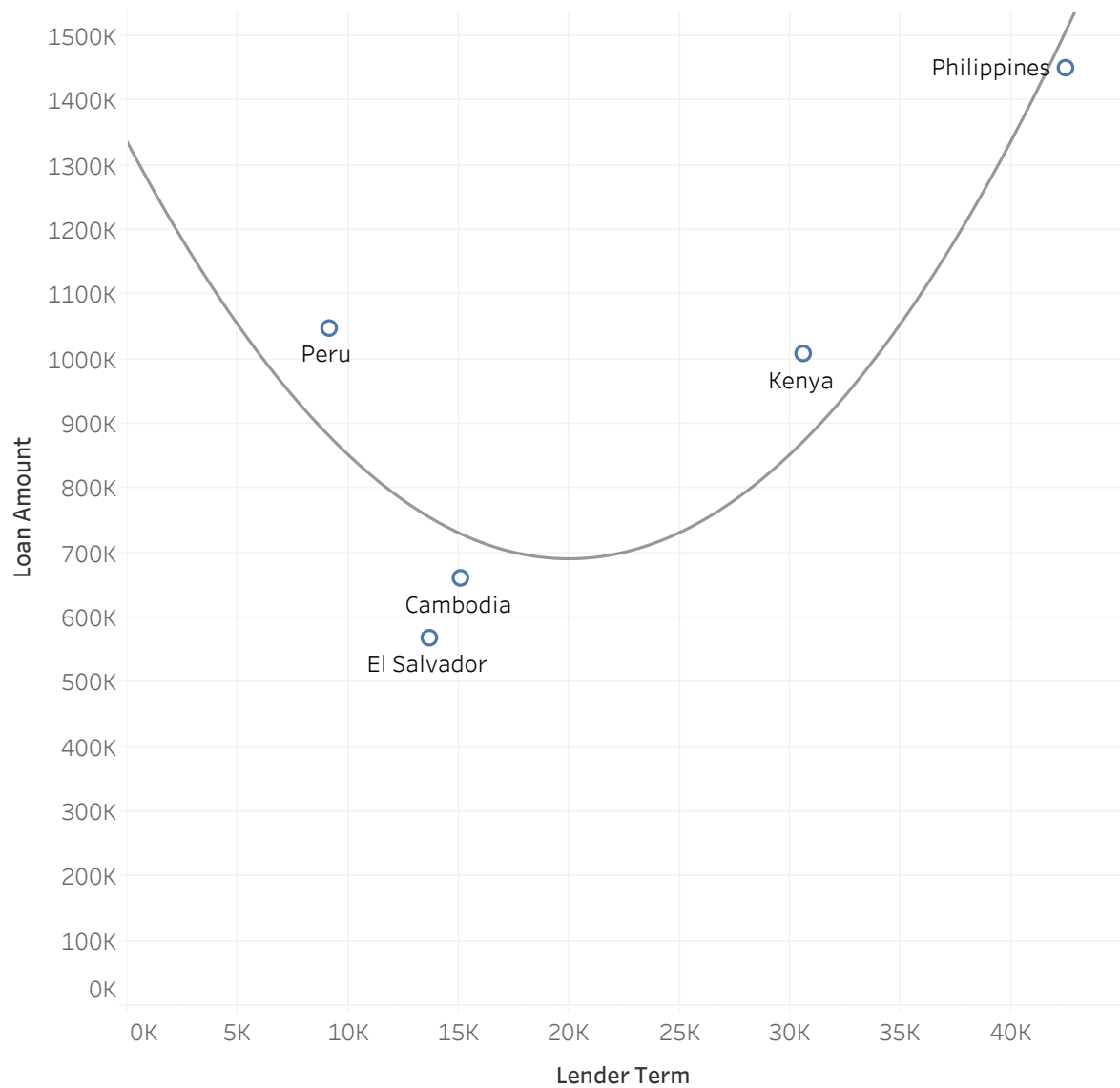


Map based on Longitude (generated) and Latitude (generated). Color shows average of Loan Amount. Details are shown for Country Name.

\*Animation performed \*

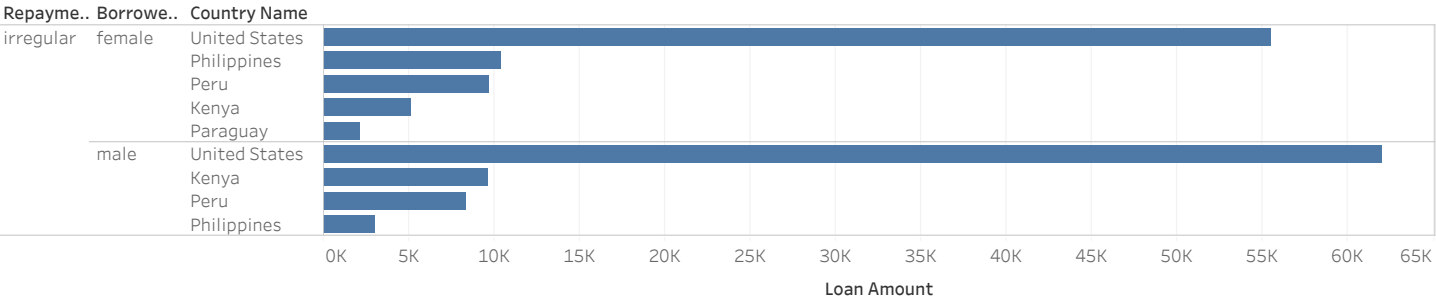


Top 5 countries Plotted for Lender Term against Loan Amount



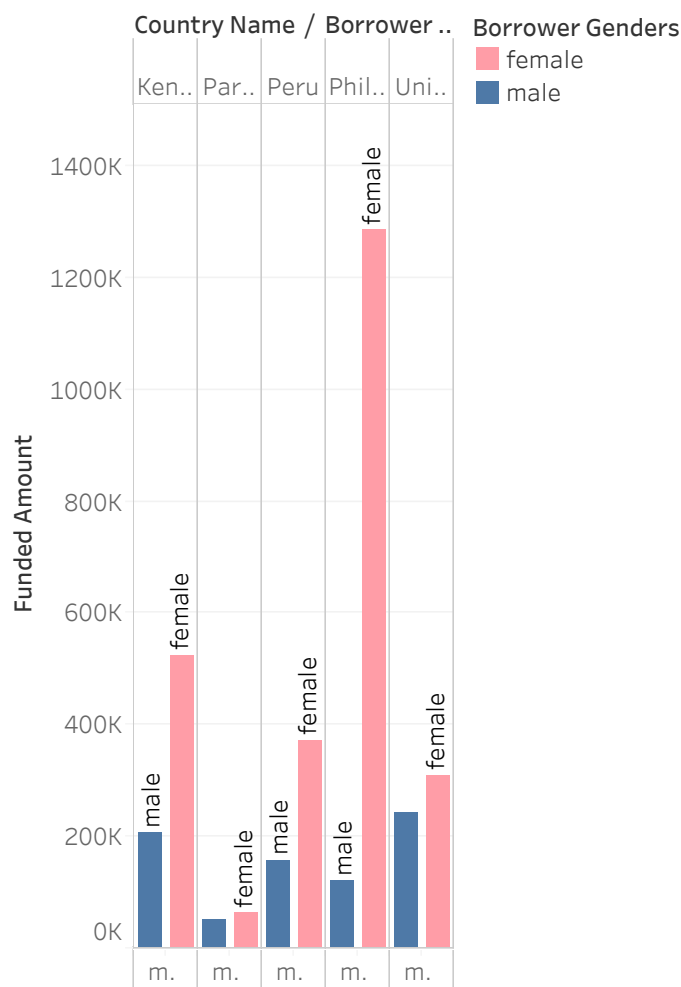
Scatter plot displaying the correlation between lender term and loan amount for the top 5 countries. (The 5 countries are chosen based on sum of loan amount)

Irregular Repayment Table based on Gender



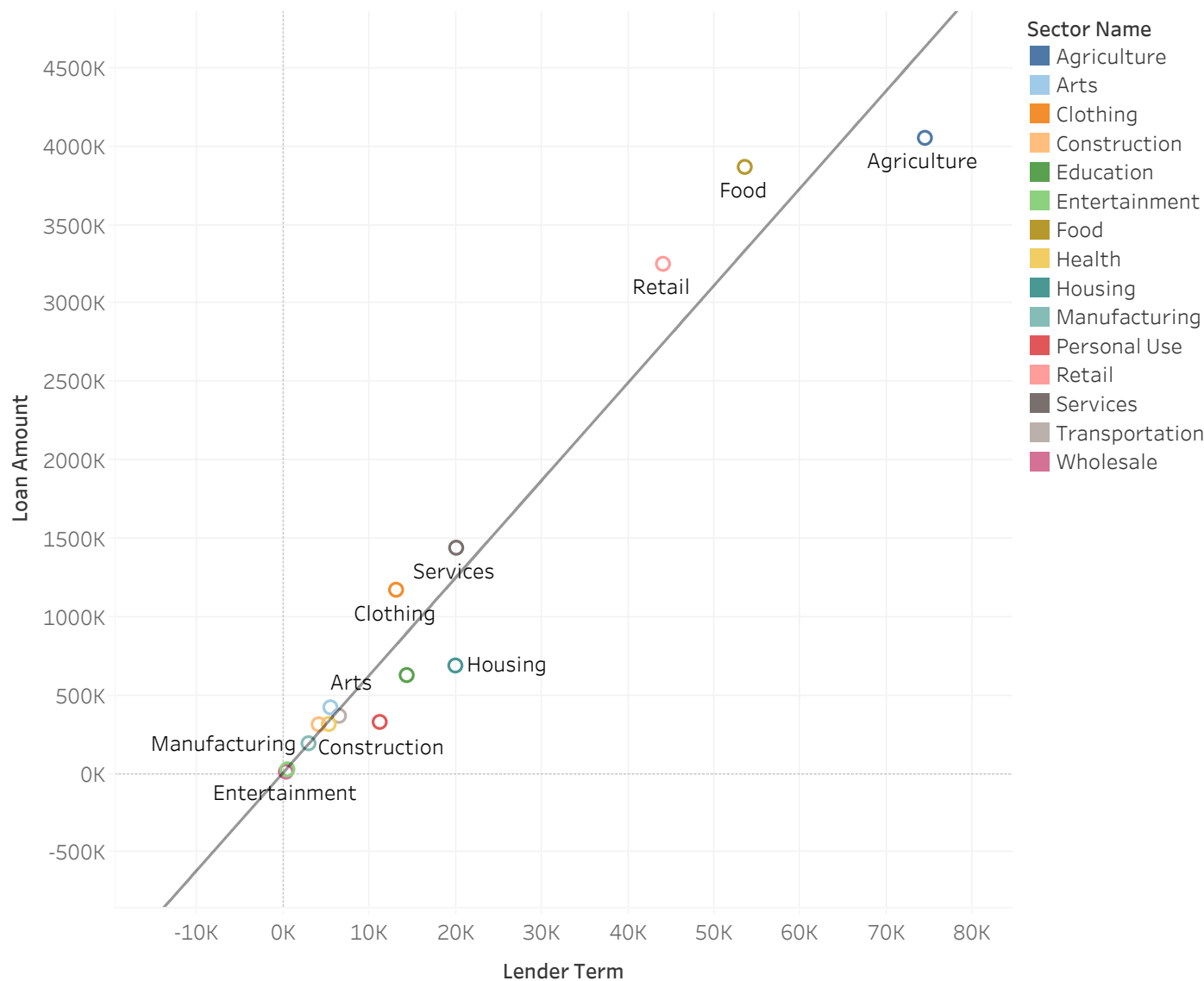
Irregular repayment based on gender(borrower gender).

# Gender comparson of the top 5 Countries based on Amount Funded



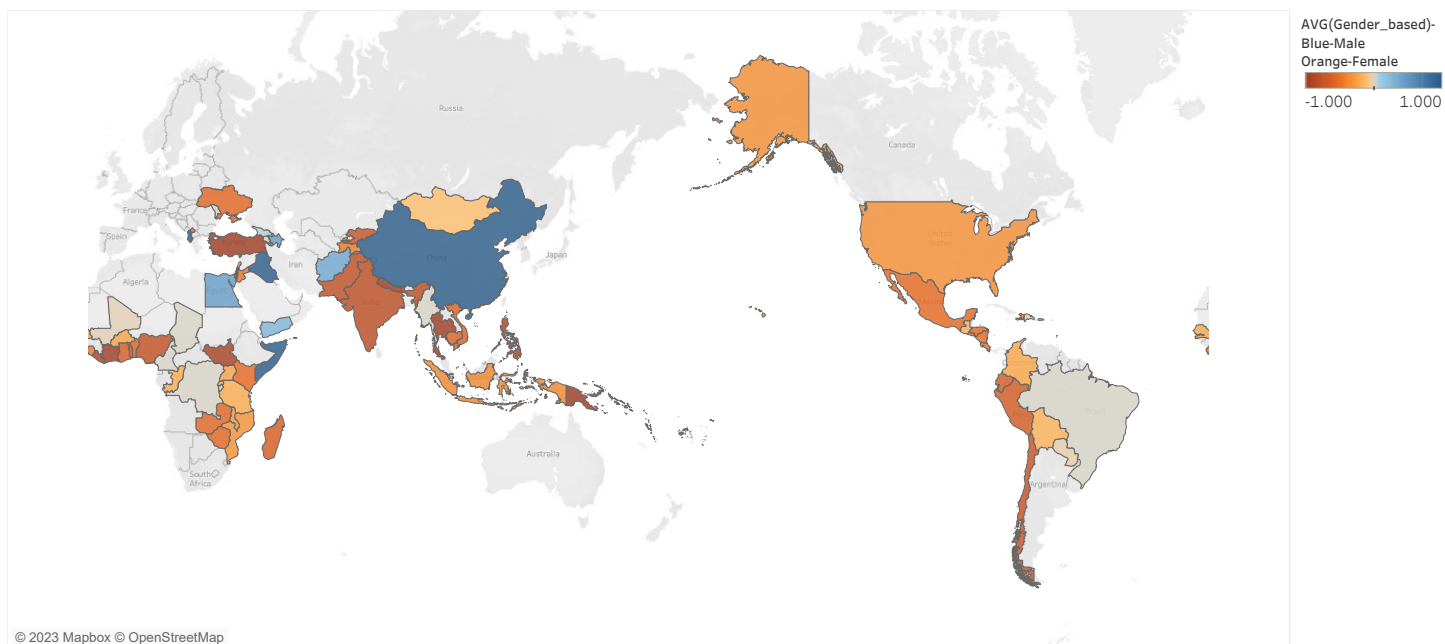
Funded amount is higher for female borrowers in all the 5 countries, with Philippines being the highest.

# Lender Term against Loan Amount based on sector



Sum of Lender Term vs. sum of Loan Amount. Color shows details about Sector Name. The marks are labeled by Sector Name.

## Male VS Female Applicants in Approved Loans



Color shows average of prevalence of male and female approved loans by country.

\*Animation Performed\*

Top Funded Countries

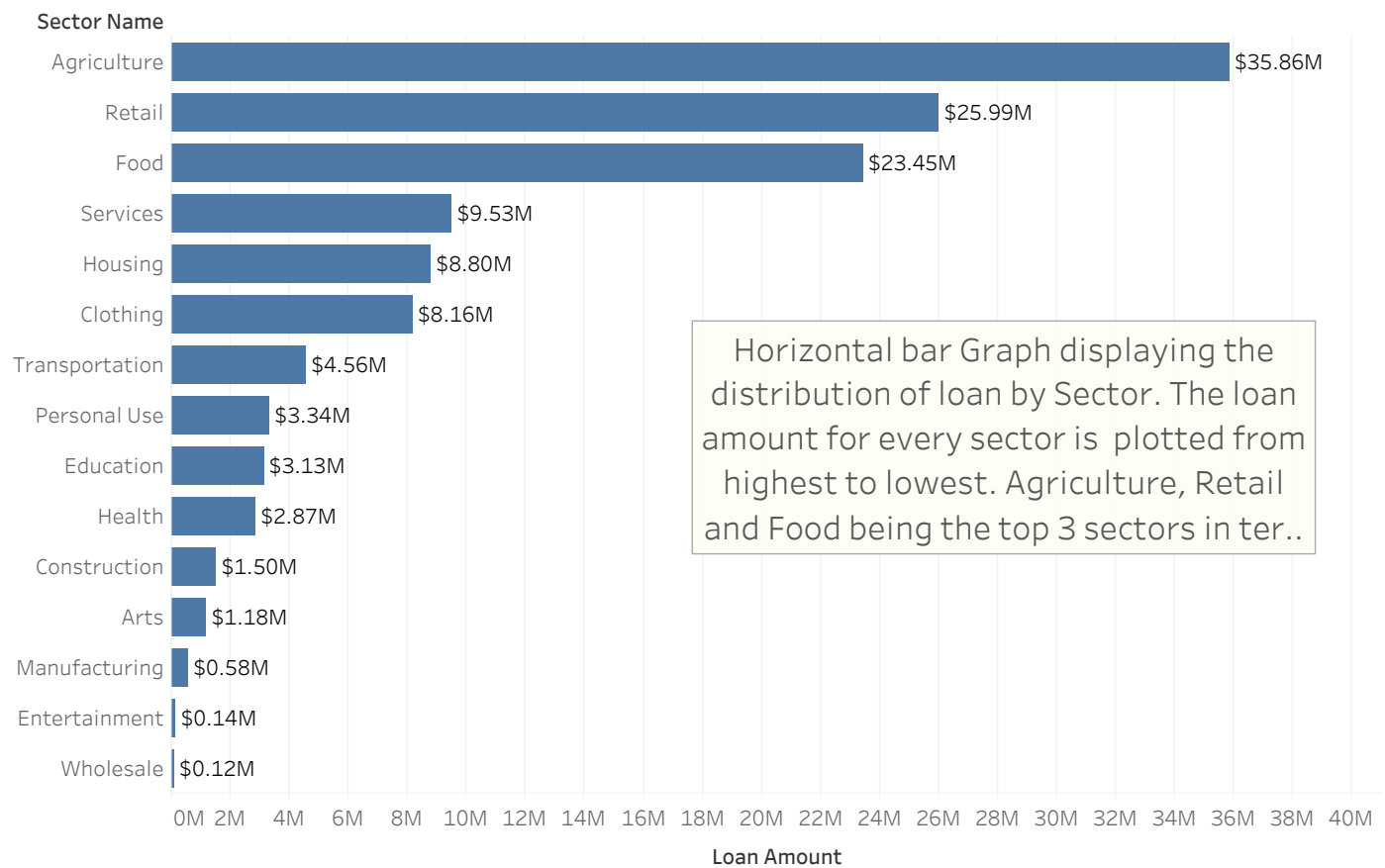


© 2023 Mapbox © OpenStreetMap

Map based on Longitude (generated) and Latitude (generated). Color shows sum of Loan Amount. Size shows sum of Loan Amount. The marks are labeled by Country Name. The view is filtered on sum of Loan Amount and Country Name. The sum of Loan Amount filter keeps non-Null values only. The Country Name filter has multiple members selected.

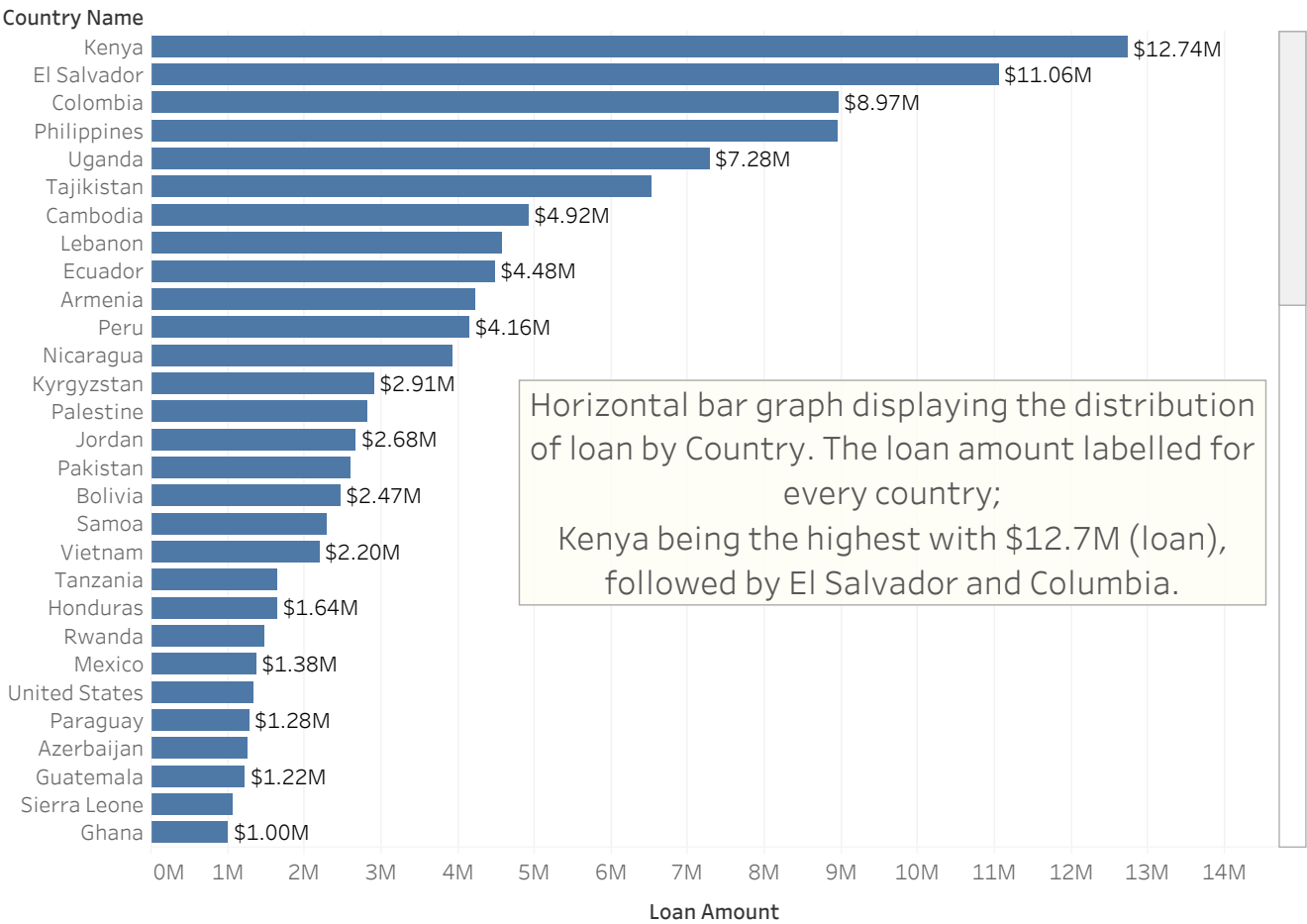
# Story 1

Distribution of loan by Sector. Agriculture, retail, & food sectors combined, contributes close to 70% of the overall loan amo..	Top 10 countries with highest loan amount are developing countries with less mature & sophisticated banking services.	Female borrowers are over twice the number of male borrowers.	Housing and transportation sectors have higher rejection rate. Whereas, arts, education & manufacturing have the highest ..	Food and agriculture sectors have a rising trend over the years in terms of loan amount.
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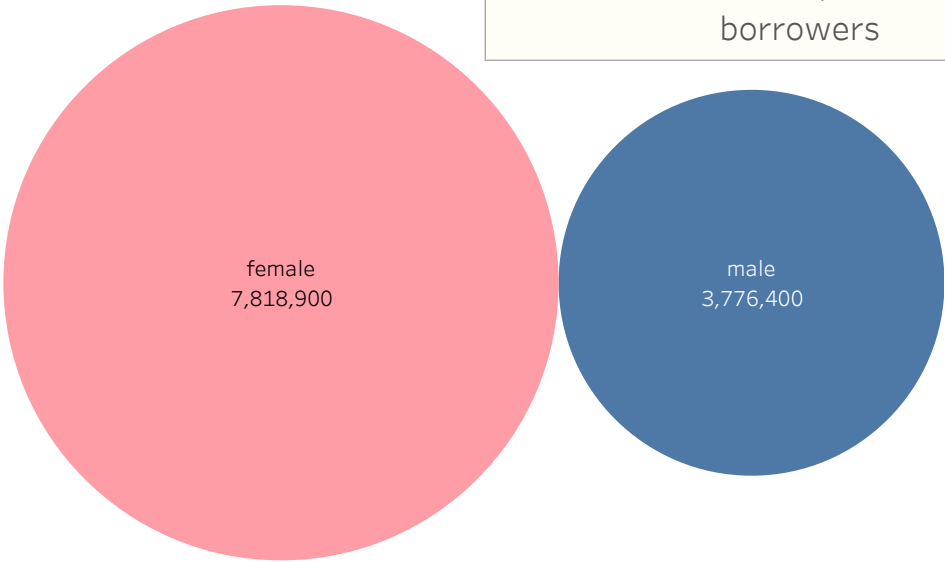
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Bubble chart showing the distribution of loan by Gender, with female borrowers being much higher, more than double, in count when compared to male borrowers

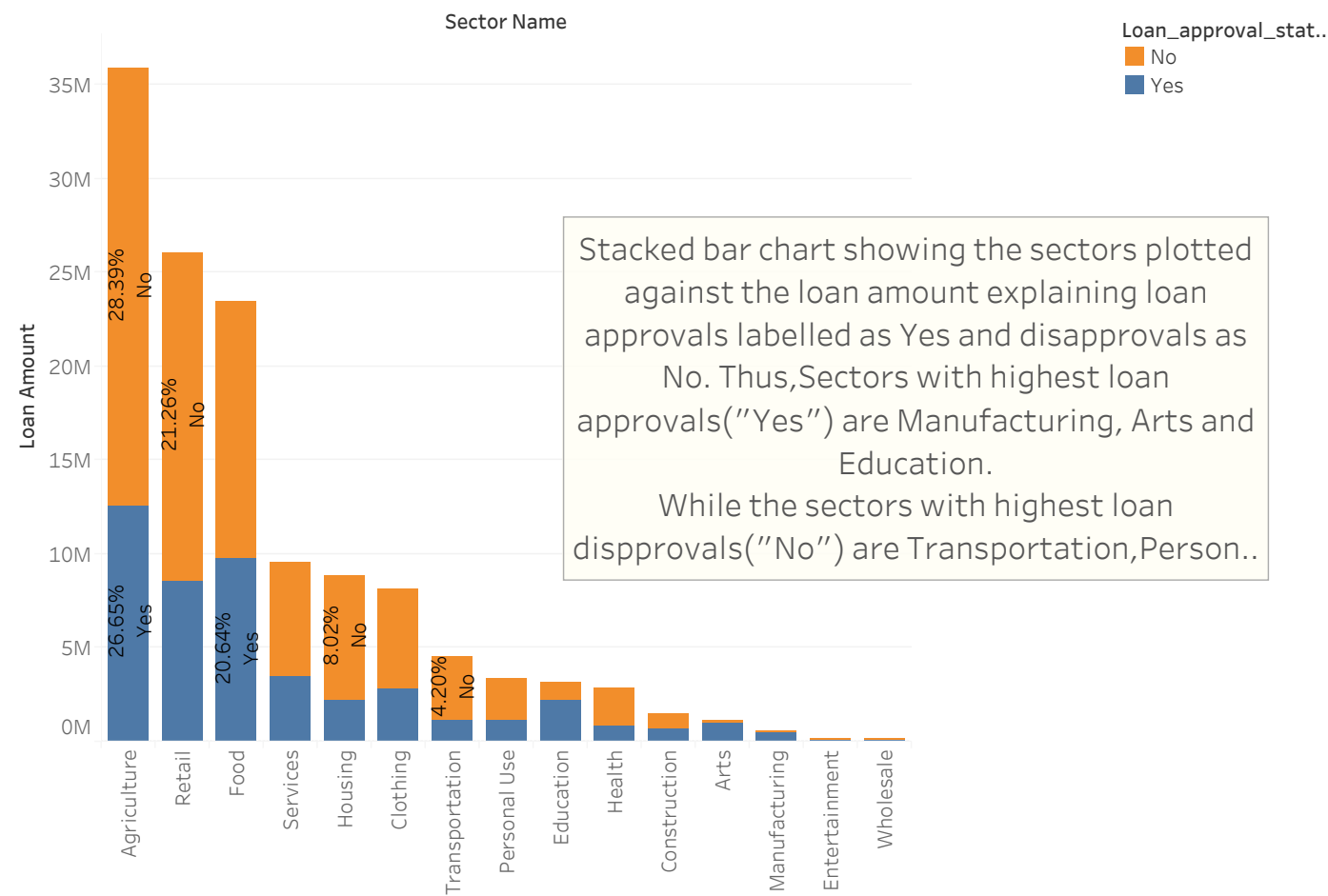
Borrower Genders

- female
- male



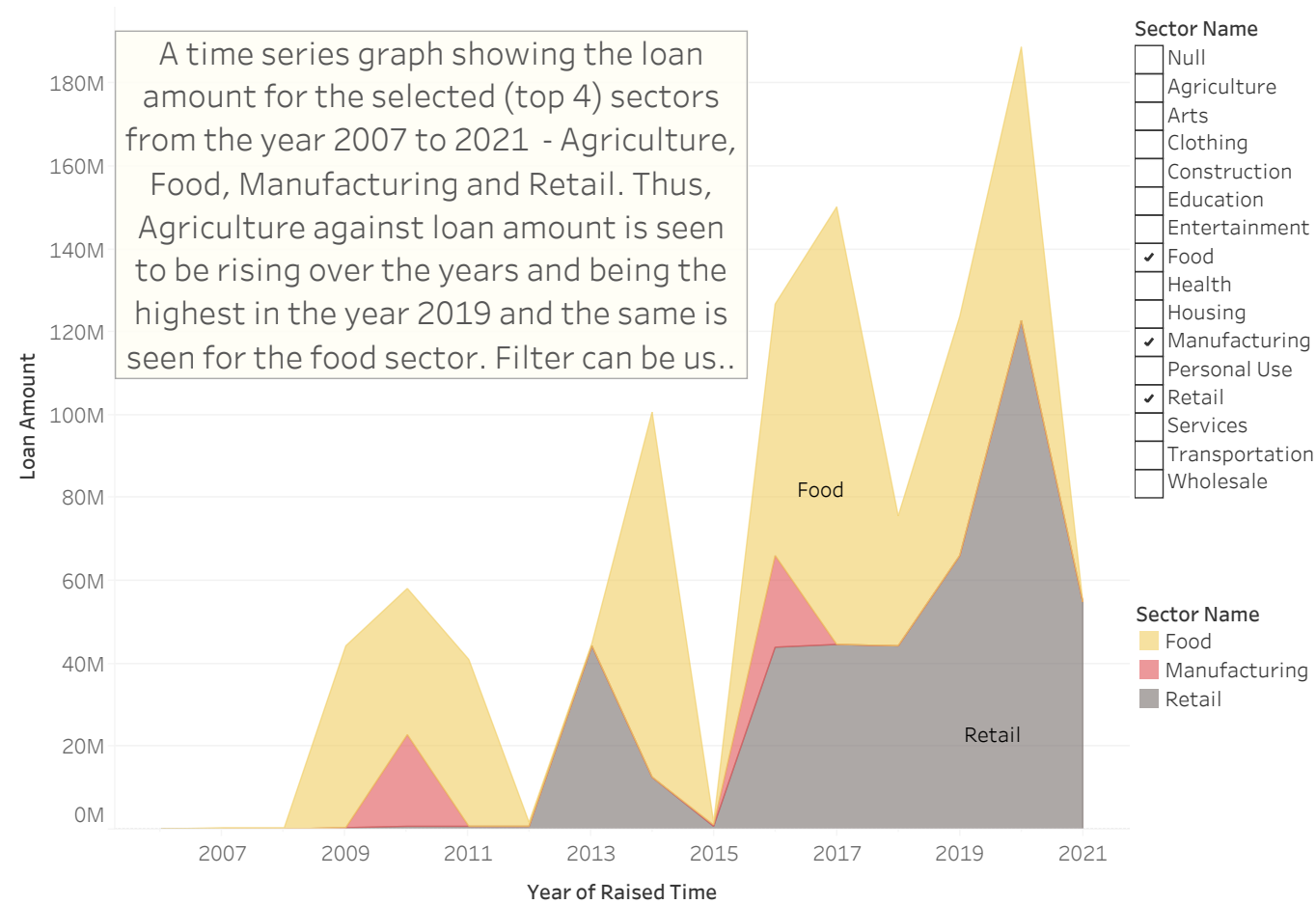
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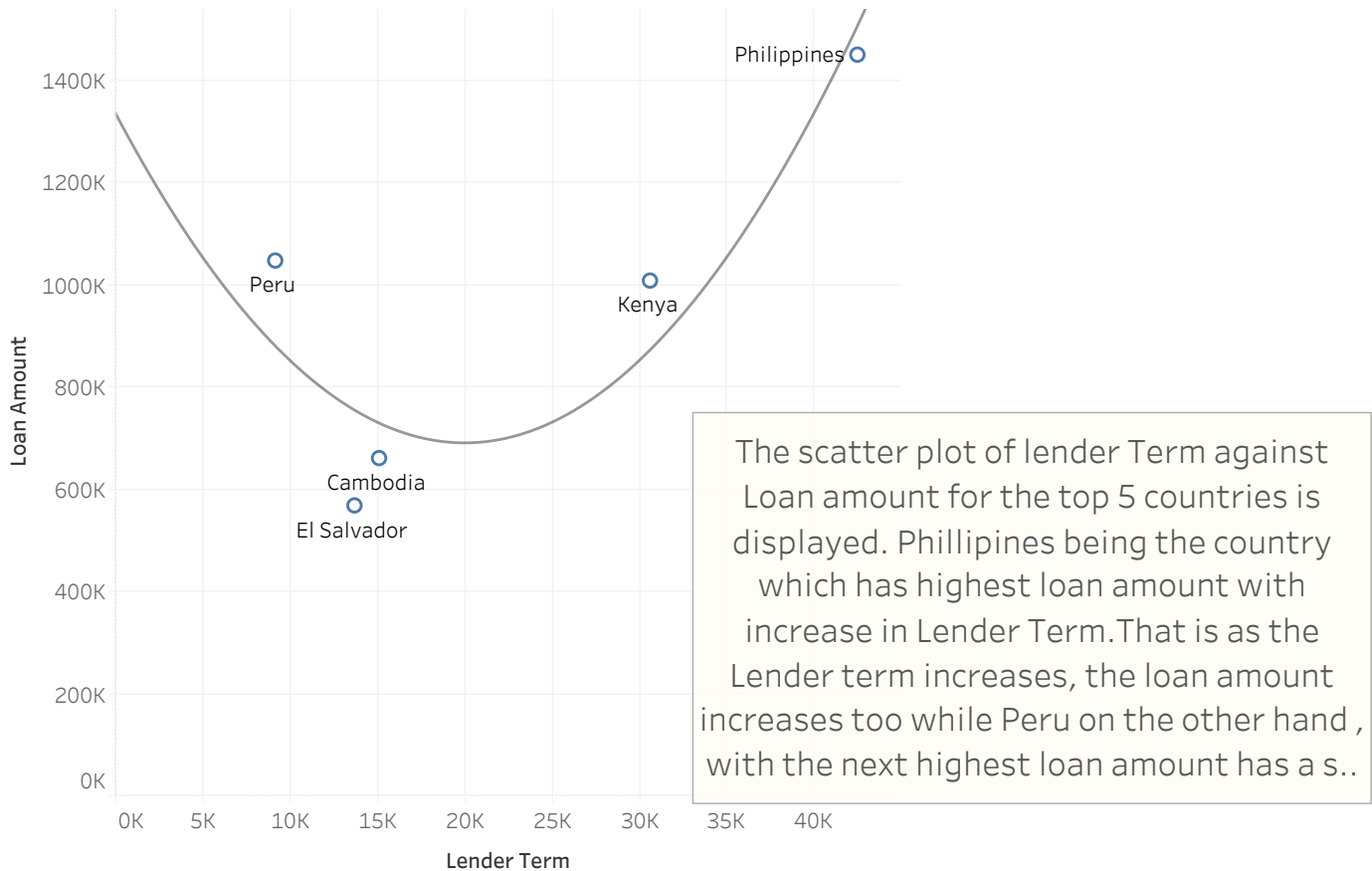
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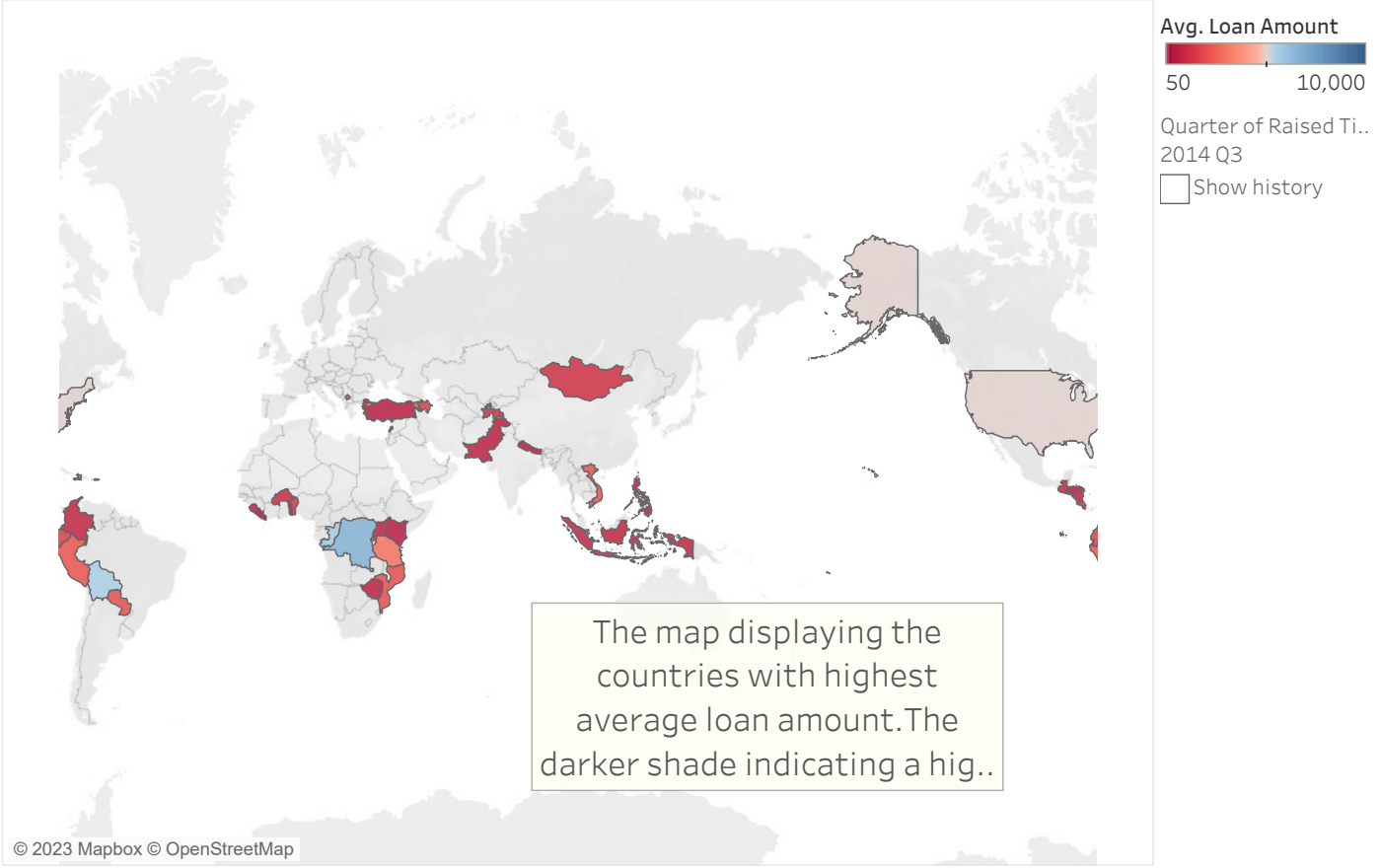
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A scatter plot is seen for countries- lender term plotted against the loan amount, showing a postive upward trend.	The map diagram showing the different countries with highest average loan amount. Thus, we can see that United States has highest average l..	Comparing borrower genders in terms of irregular repayment of loan amount. United states topping the list for both the genders. .	Comparing the amount funded till 2021 for Female and Male borrowers. We can see that Female borrowers have 10 times higher funded amount compare..
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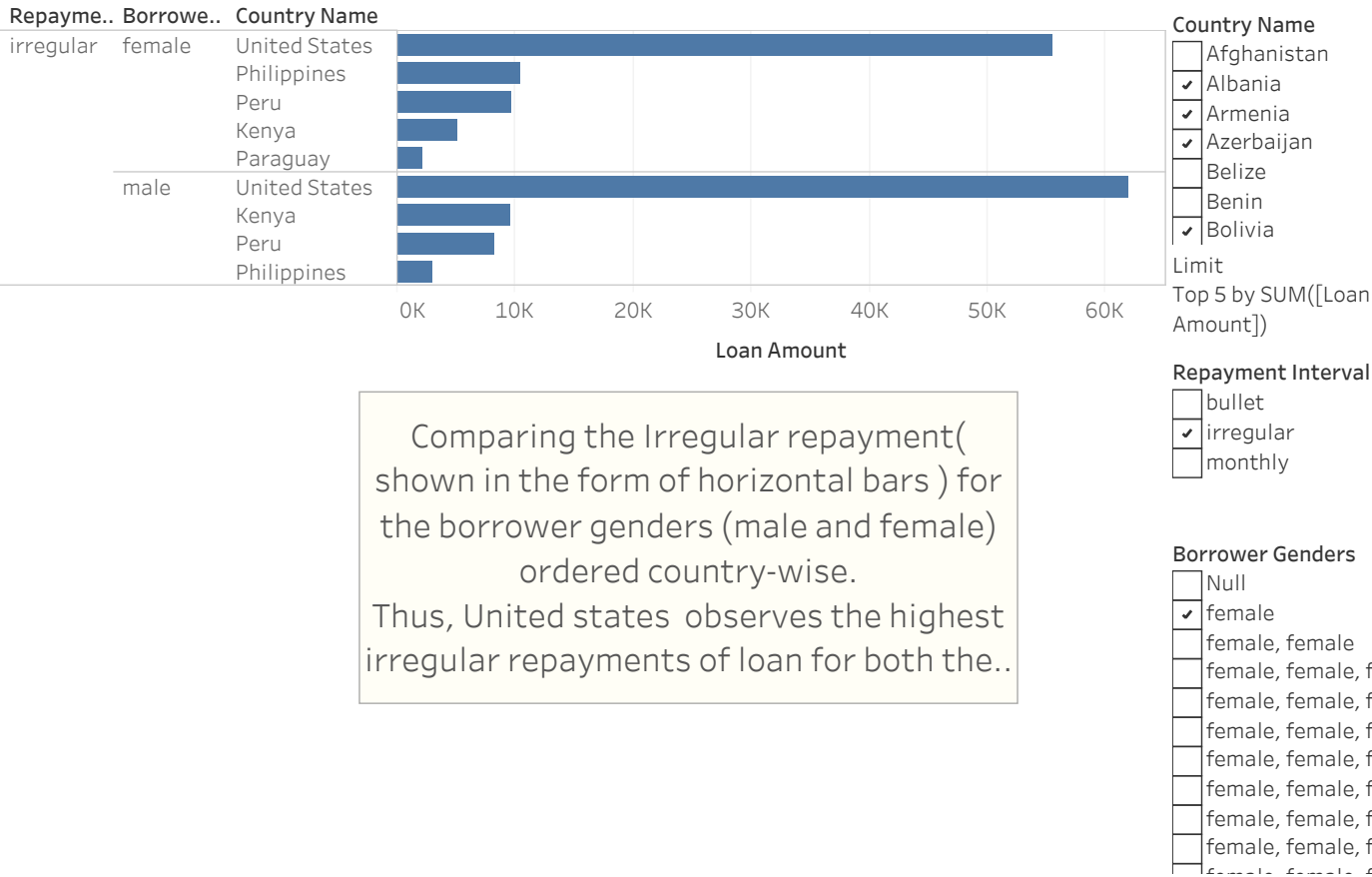
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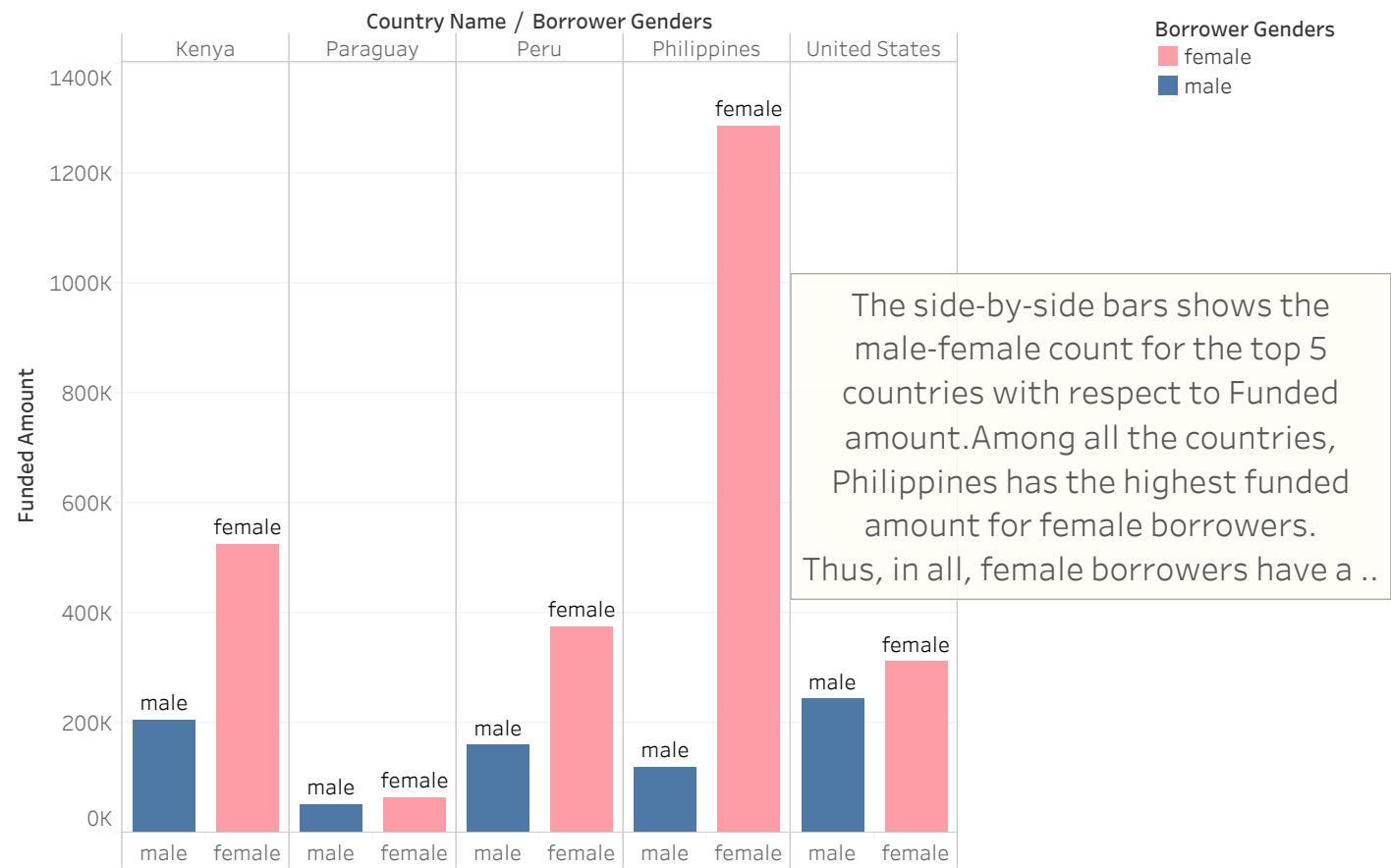
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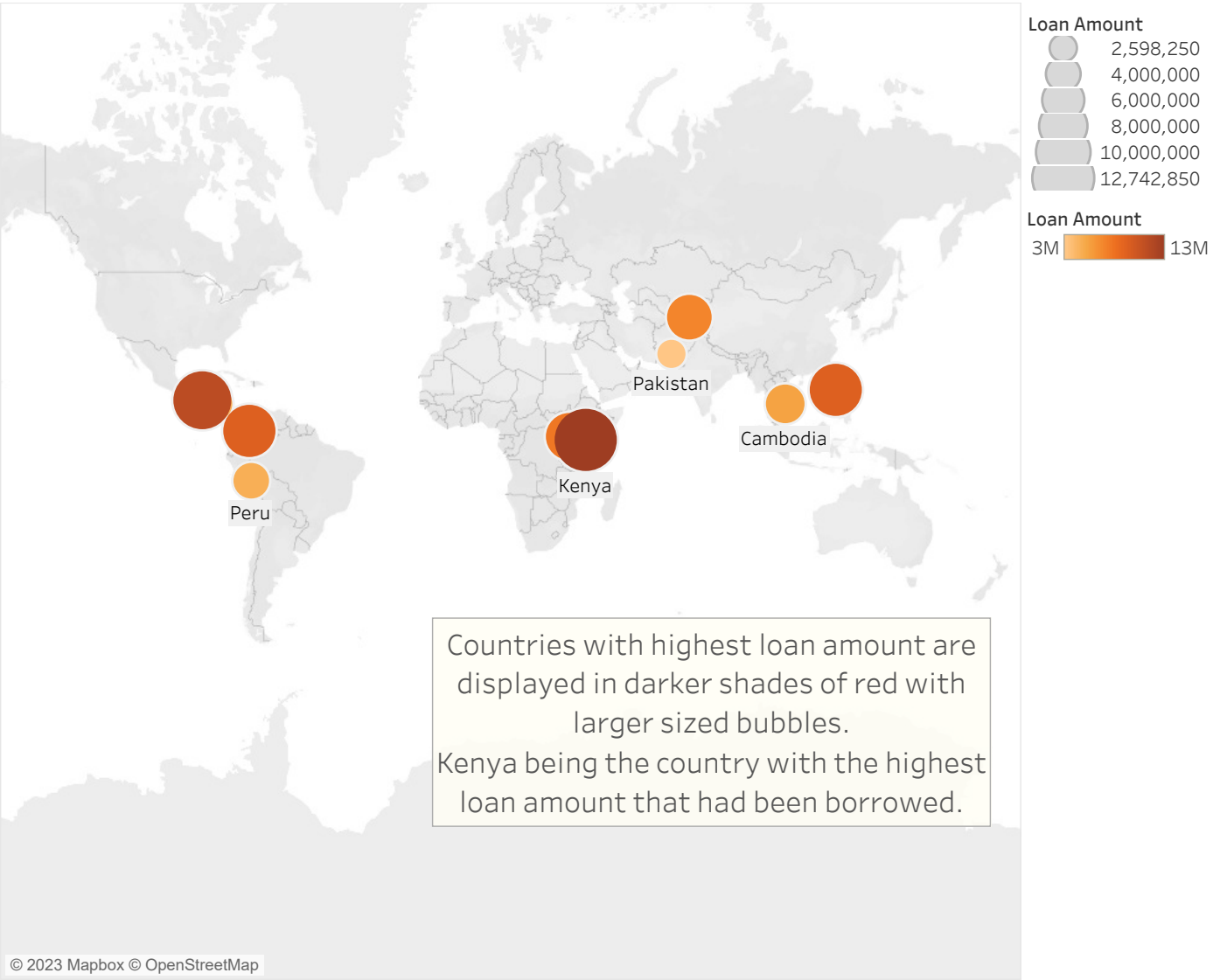


# Story 3

Map displaying the countries wit..

Scatter plot displaying the le..

Map showing loan being funded for ..



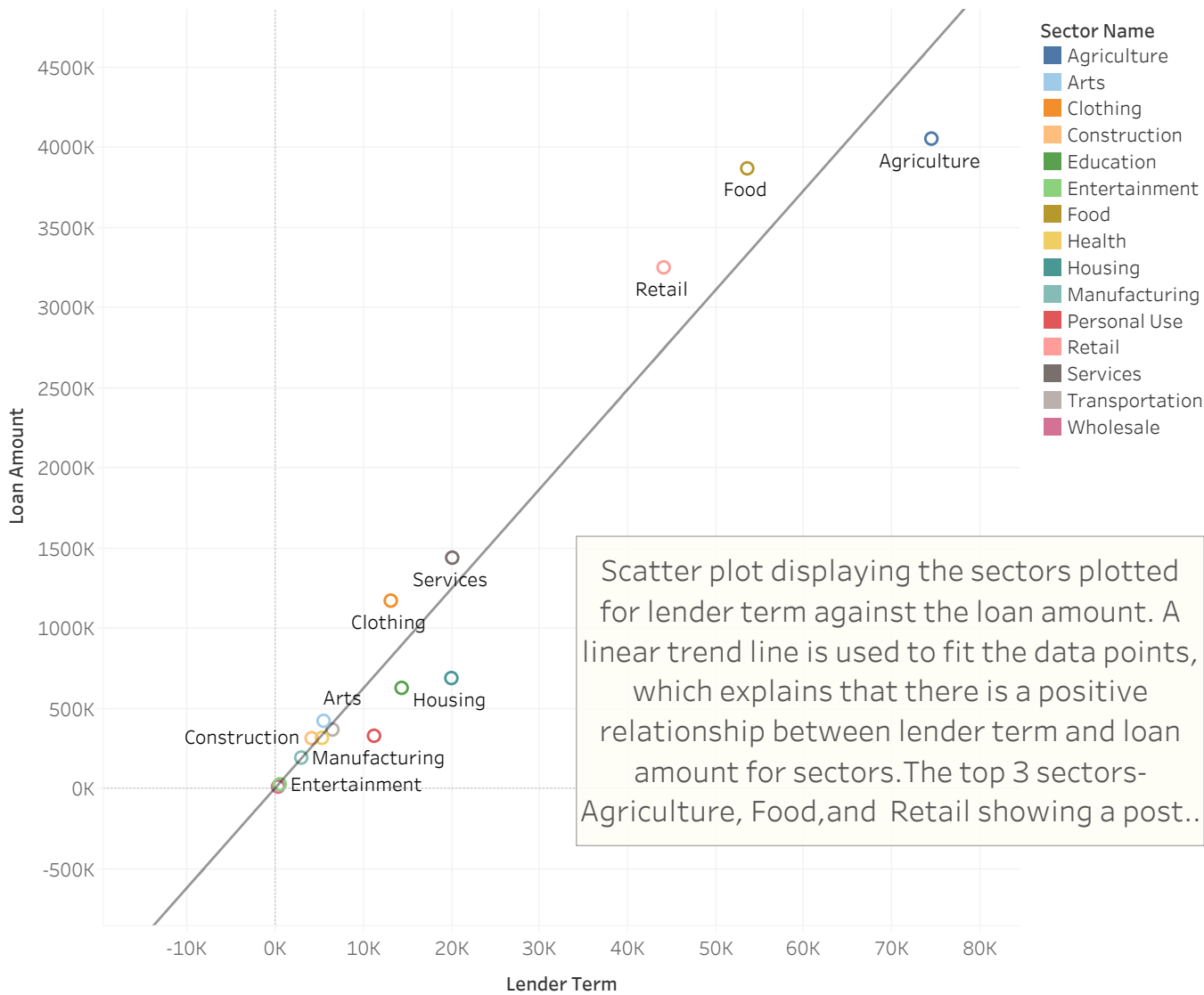


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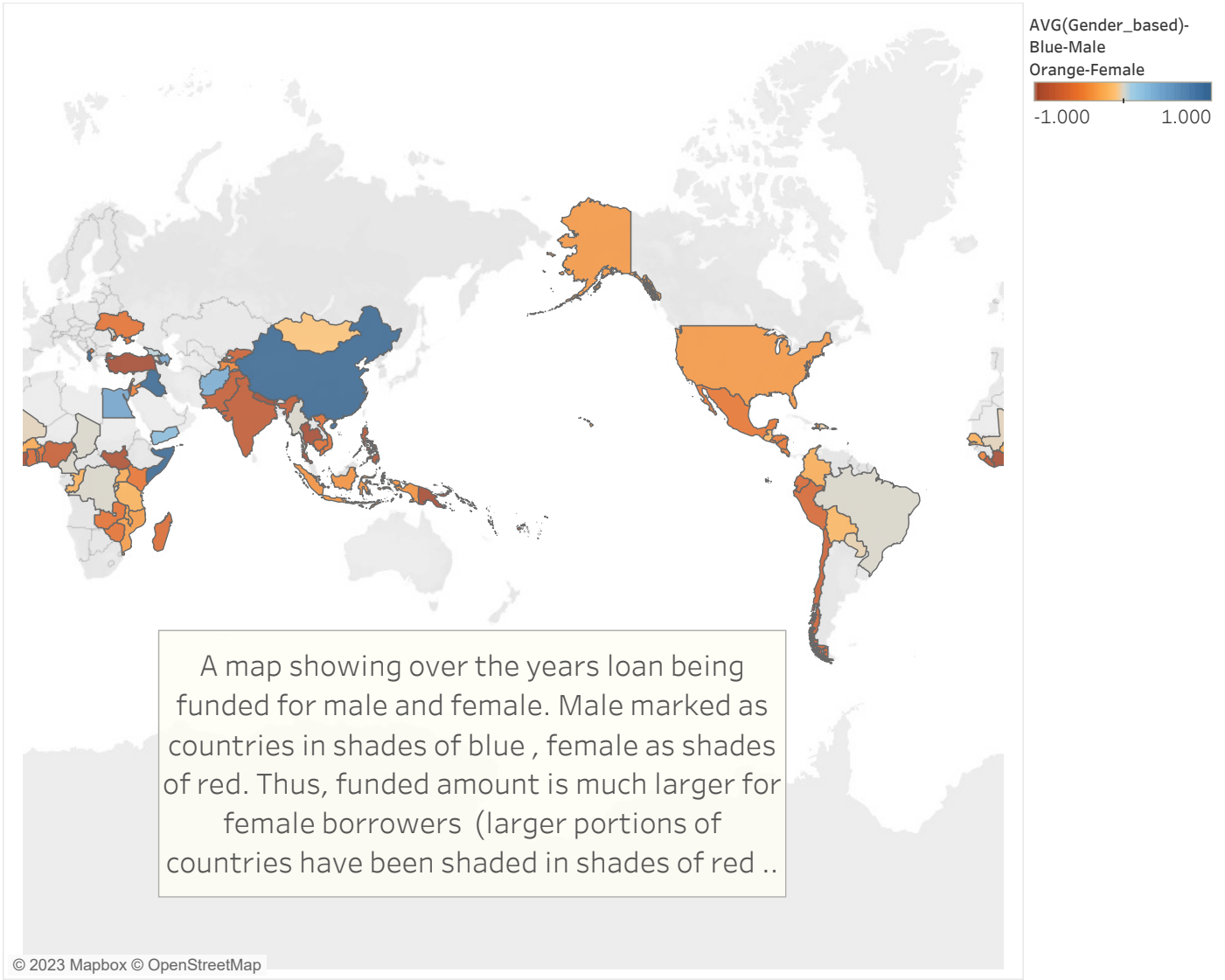
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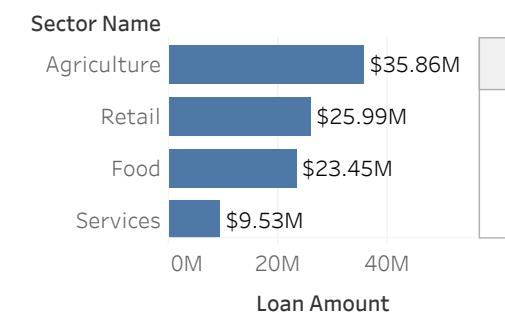


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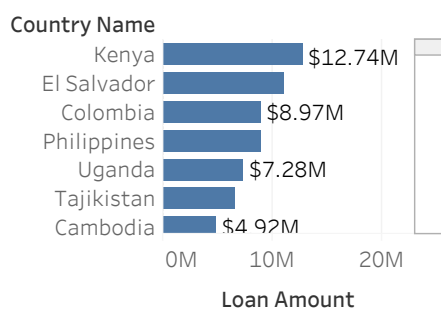
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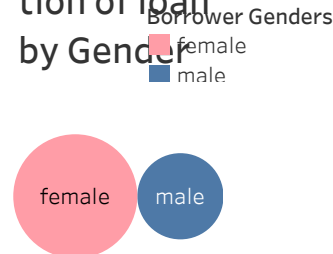
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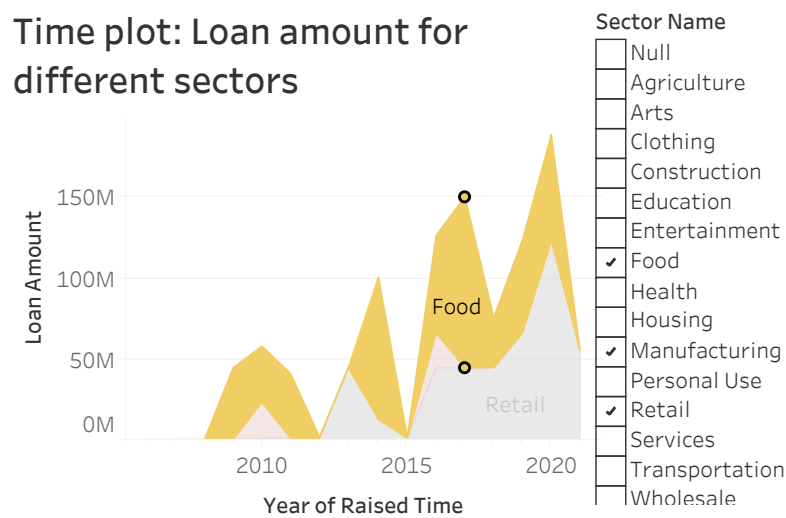
Distribution of Loan by Country



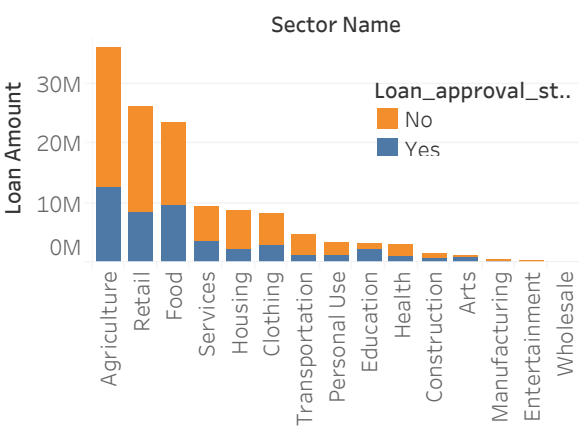
Distribution of loan by Gender



Time plot: Loan amount for different sectors



Loan Approval by Sector



### KIVA's IMPACT

Understanding the need to translate the raw data into business insights, and to better recommend the approach of a micro-finance site and communicating the findings we have come out with the following key points-

- Through Visualization it is shown much women request for loans more compared to men

In gender disparity how trends amongst gender groups have changed over the years. Since Kiva's mission is to help businesses that seek to affect change, **the pro-social lending site should encourage more women to take loans to alleviate poverty and empower women to lift entire communities out of poverty.** But male borrowers' loan approvals should not stop , if there are genuine needs for future growth.

- Catering to higher trends of loan disbursement in top sectors and geographical locations

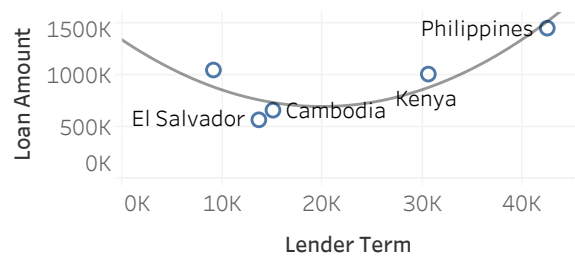
The Top geographical locations and sectors findings were important for our analysis since Kiva wants to work for social empowerment of the poor in developing countries. The top countries are Kenya, El Salvador and Columbia and top sectors like Agriculture, Food and Retail are important and more work should be done in such developing countries, keeping in view Kiva's mission and pursuit of development. But other developing nations also need attention.

## CONCLUSION

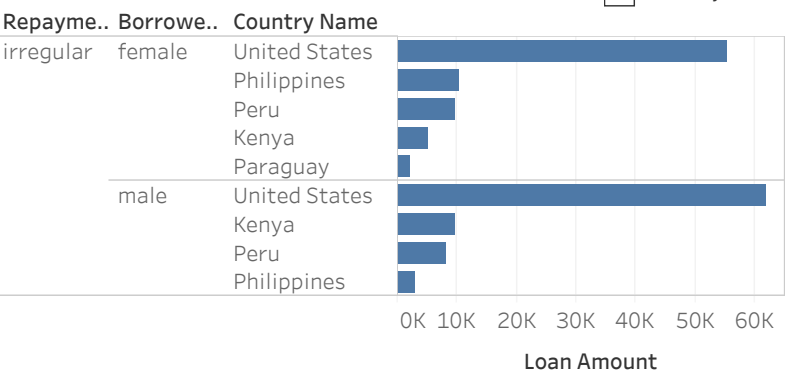
The visualizations created for Kiva-loan-dataset reveal interesting trends in the data. Kiva gives out small loans which has big impact on the socio-economic sustained development in poorer regions. Each visualization and graph played a significant role in our analysis. It was evident that Kiva supports women entrepreneurs and is lending more with women in the lead which closes the gender gap and empowers women entrepreneurs generating transformational economic impact

Further on based on our findings it can be concluded that Kiva has played an important role in connecting the developing and developed world. Creating social good through lending and borrowing in developing countries they have dramatically made a difference. The analysis contains a dozen of cross section evaluation and we conclude that our analysis supports the approach of Kiva towards crowd funding as a tool for reducing poverty and empowering women.

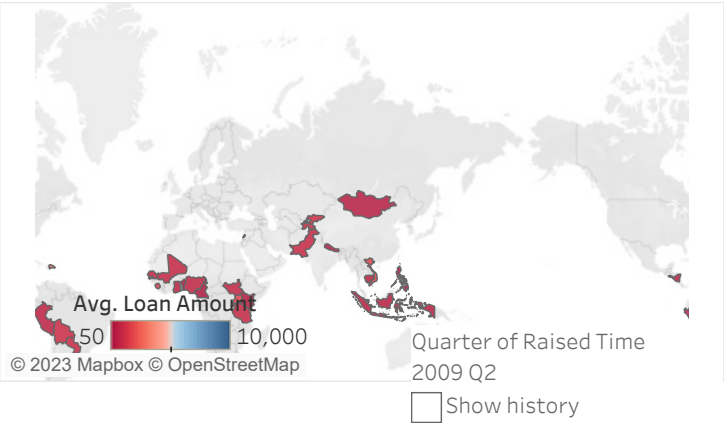
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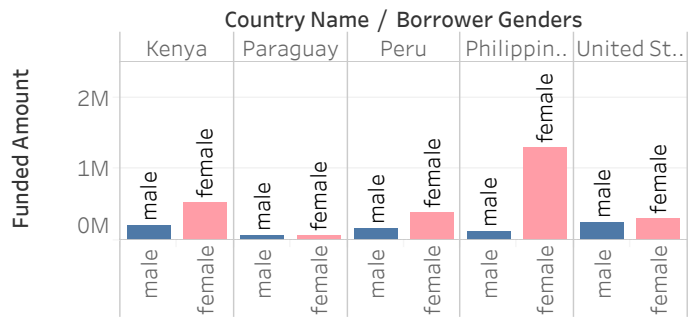
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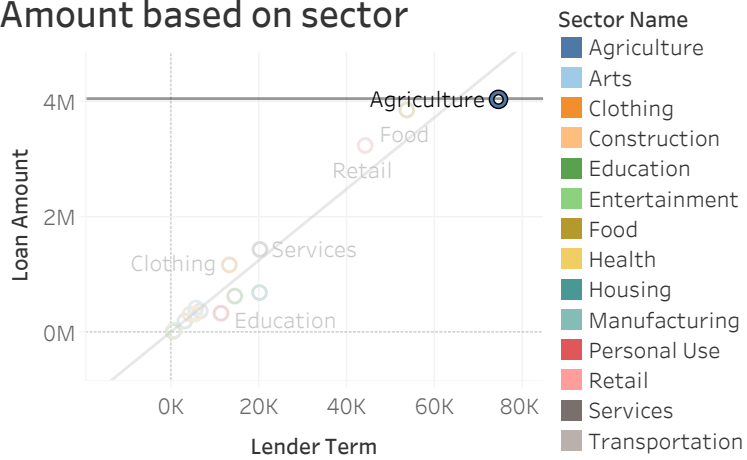
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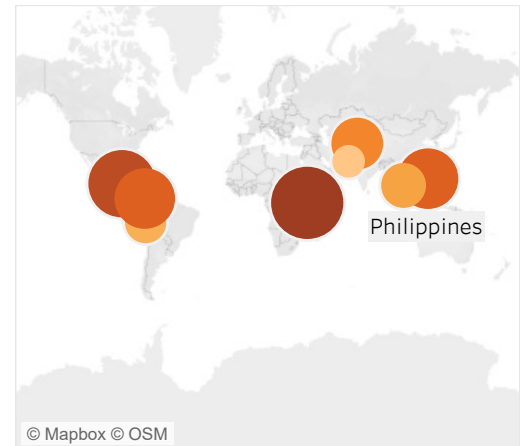
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## Top Funded Countries



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