

# INFO 5502: Principles of Data Science and Techniques

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## **GROUP 3:**

KAMINI SURESH YELAMAR

MADHU ASHALA

NARAYAN DHARMENDRA RAVAL

# Non-Immigration Visa Issuances

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Data



VISA Issuances for different  
Countries for different Categories  
Over the years

Target



Fixed our target on few visas F-1,  
H-1B, B-1,2 etc. for a continent

Research

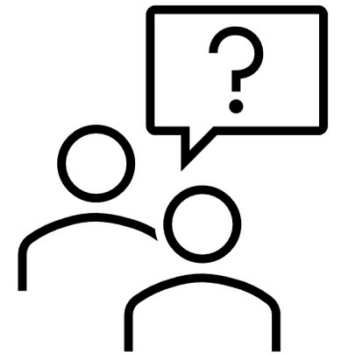


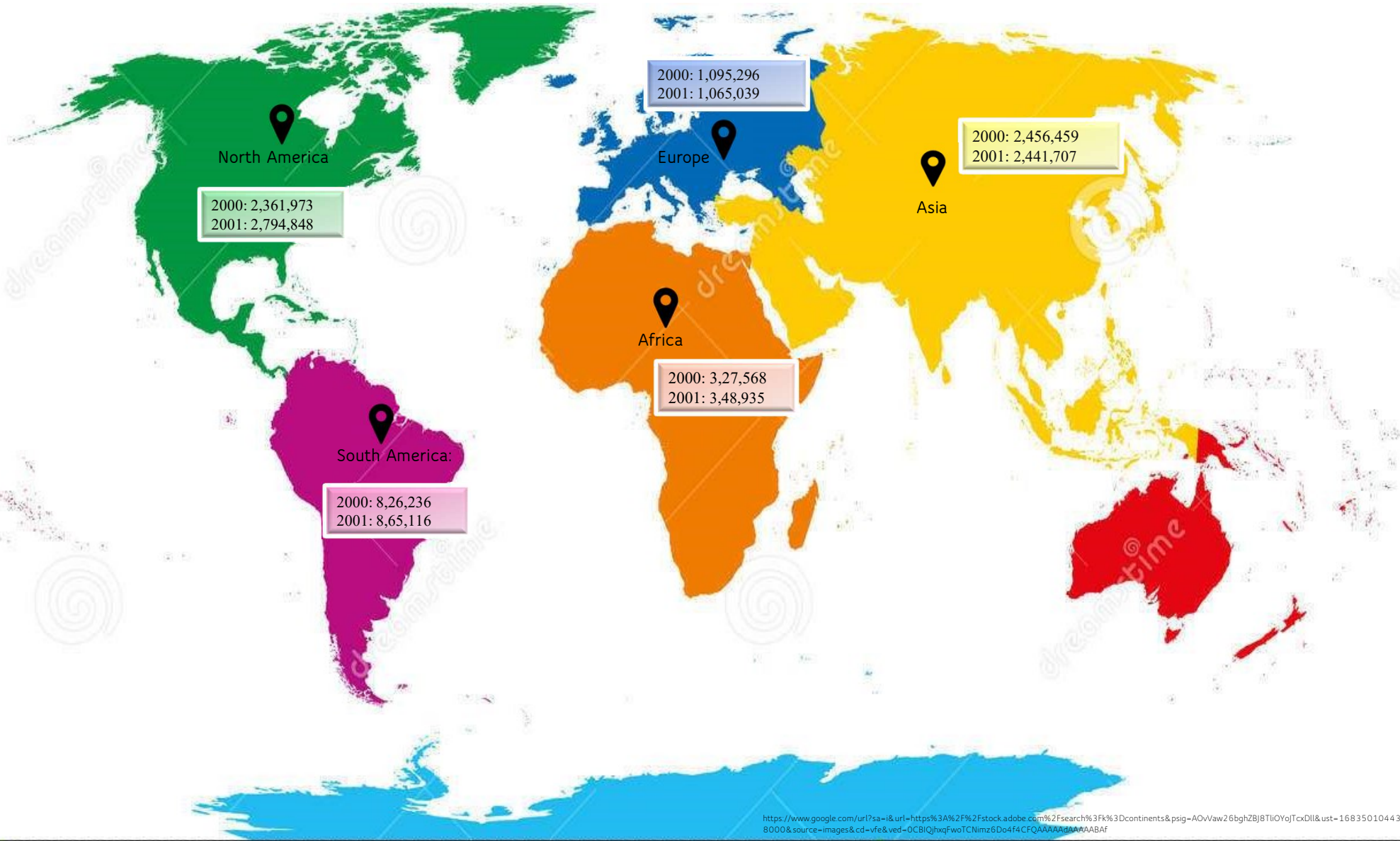
Prediction of VISA approval for  
upcoming years

# What our Data Story Starts with?

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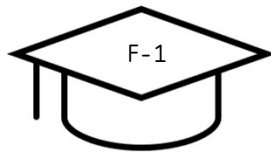
Considering Visa approvals for Fiscal  
Years 2000 & 2001 for Continents.



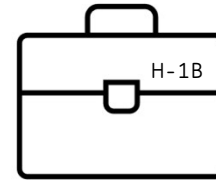


# If we explore Visa counts for ASIA ...

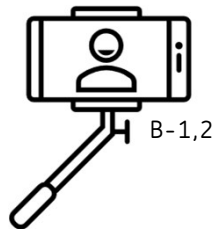
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2000 : 1,56,315  
2001 : 1,64,376

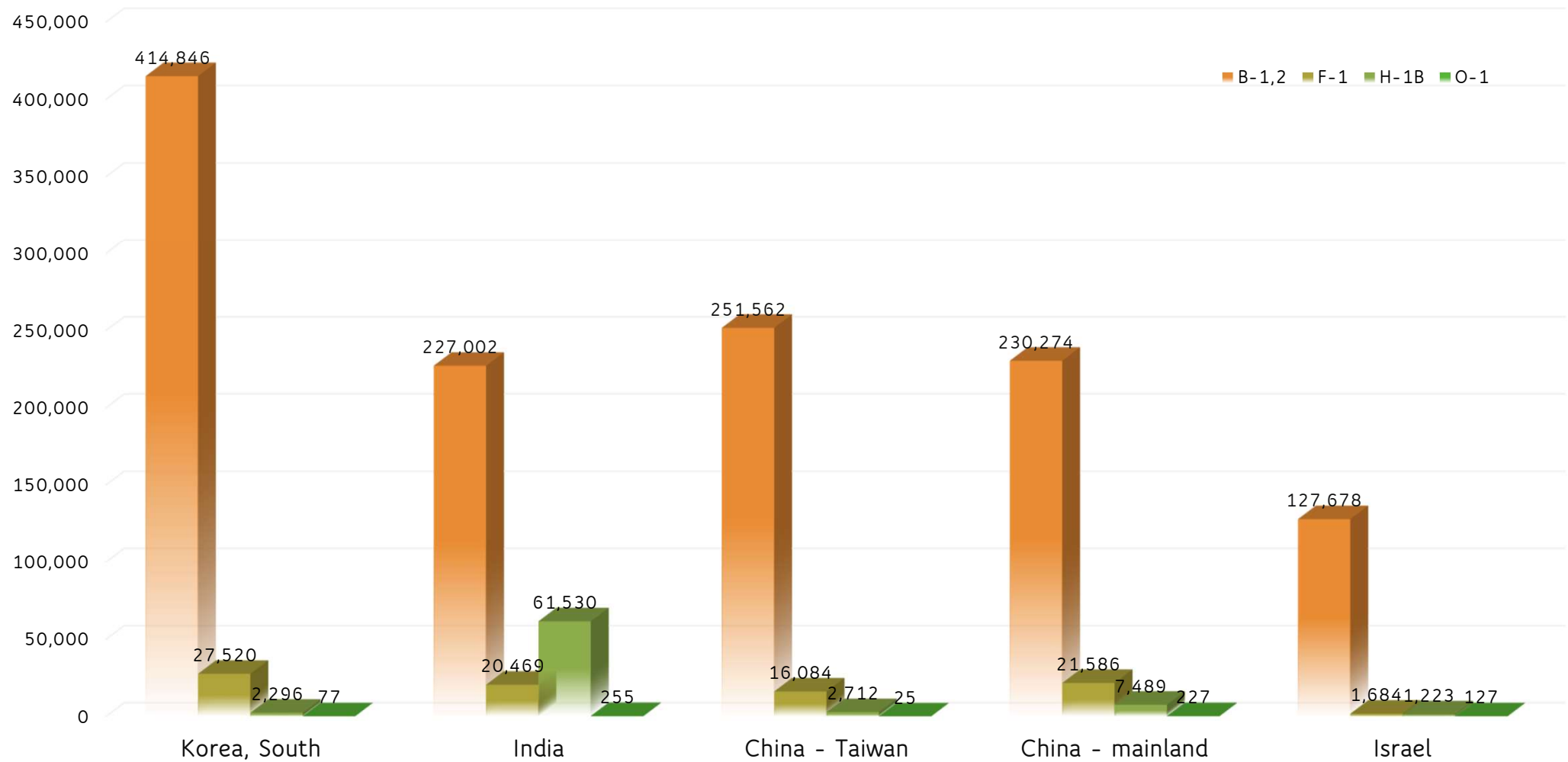


2000 : 91,531  
2001 : 1,10,332

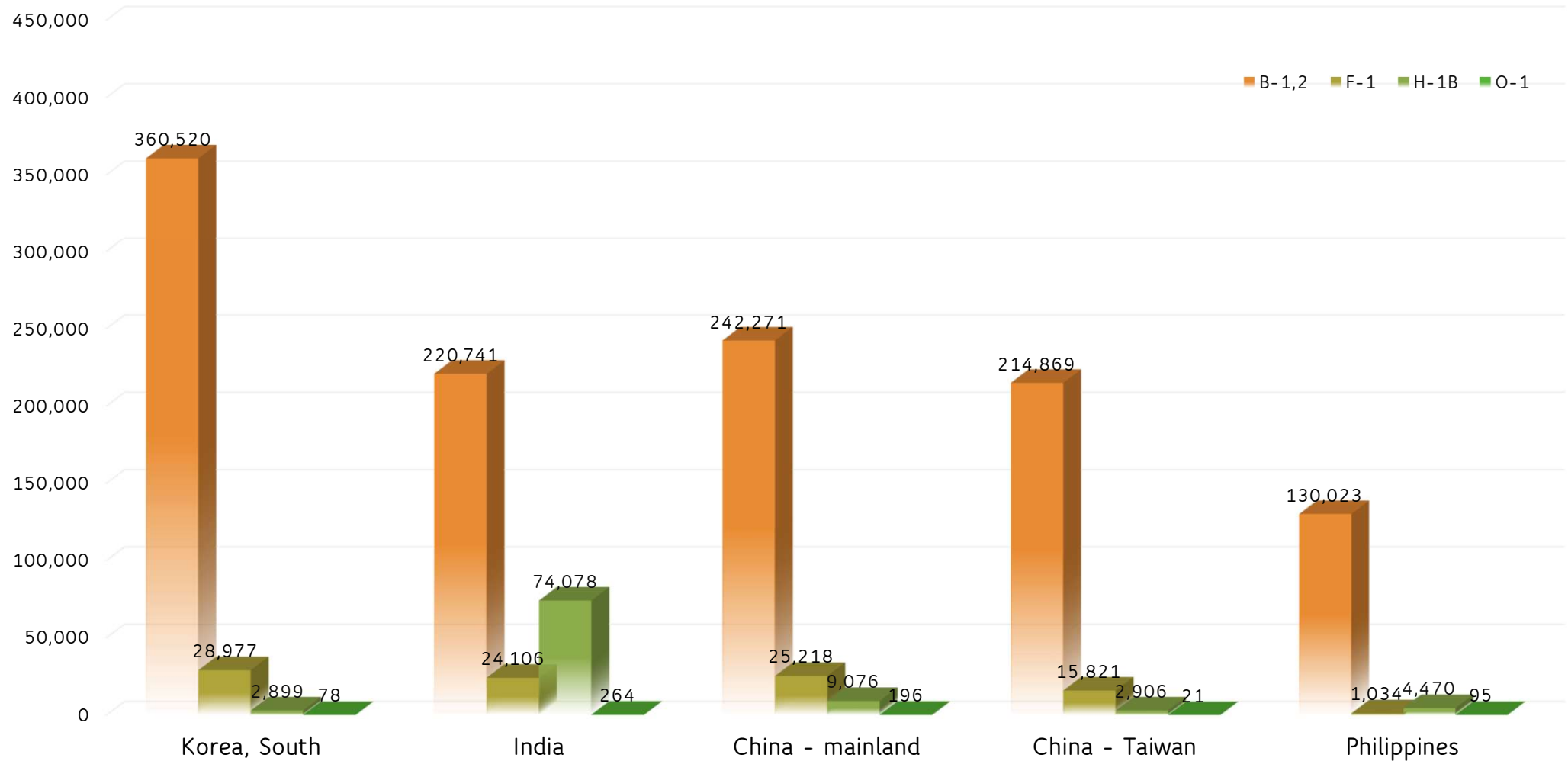


2000 : 1,758,376  
2001 : 1,686,848

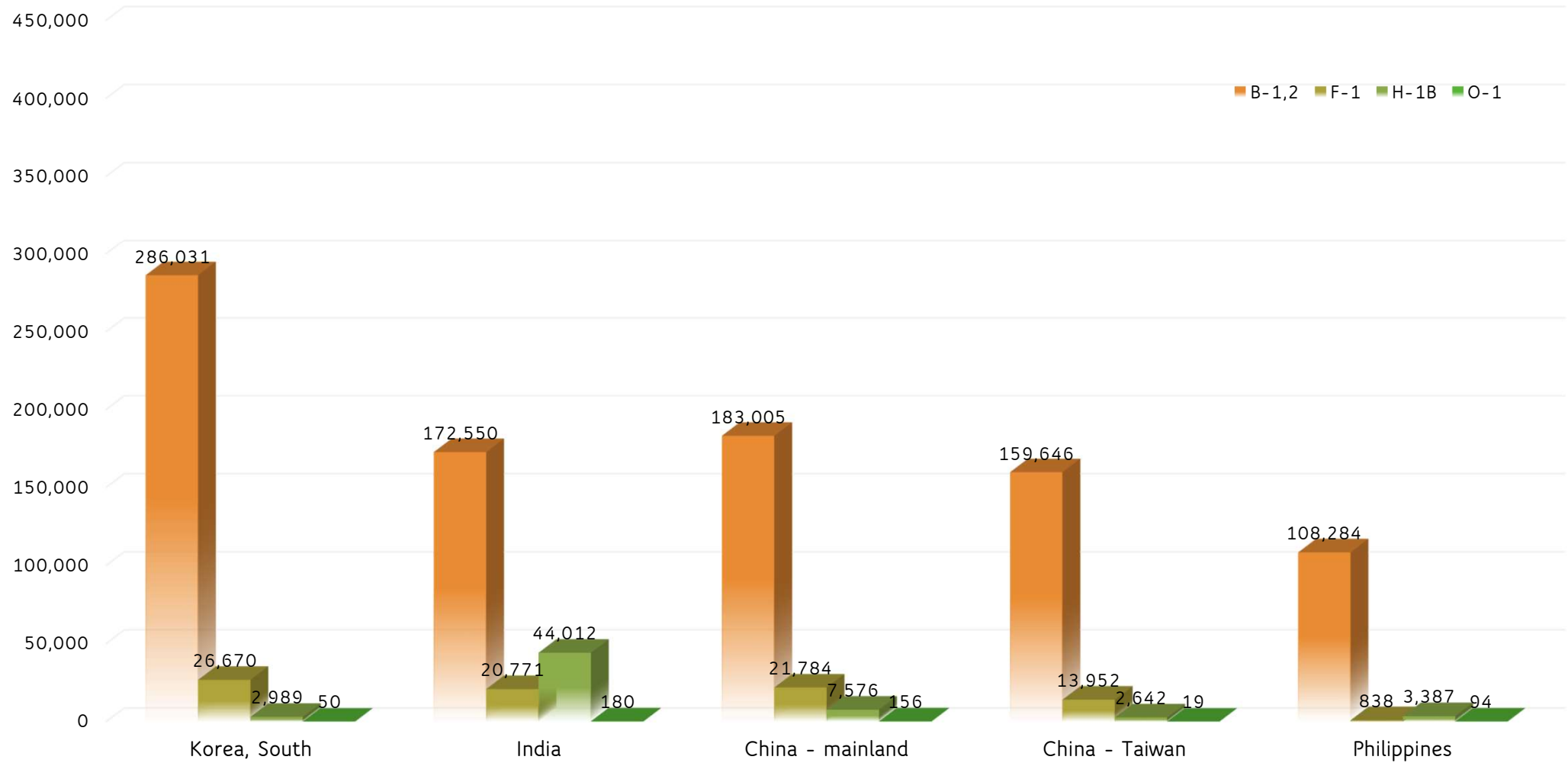
## ASIA (Top 5 Countries) Year 2000



## ASIA (Top 5 Countries) Year 2001



## ASIA (Top 5 Countries) Year 2002







If you observe ,Compared to 2000->2001,  
the decrease in visa approval for 2002 is  
more..

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- What could be the reason?
- What all factors are affecting the Visa approvals?
- How long would it take to come back to normal?

Ref: New-york Times  
US News



YES! You guessed it right..

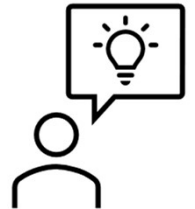
**World Trade Center incident (9/11)** at USA was one of the reasons that affected upcoming years' Visa approvals..

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With 9/11 attack , USA's economy has gone through a negative impact.

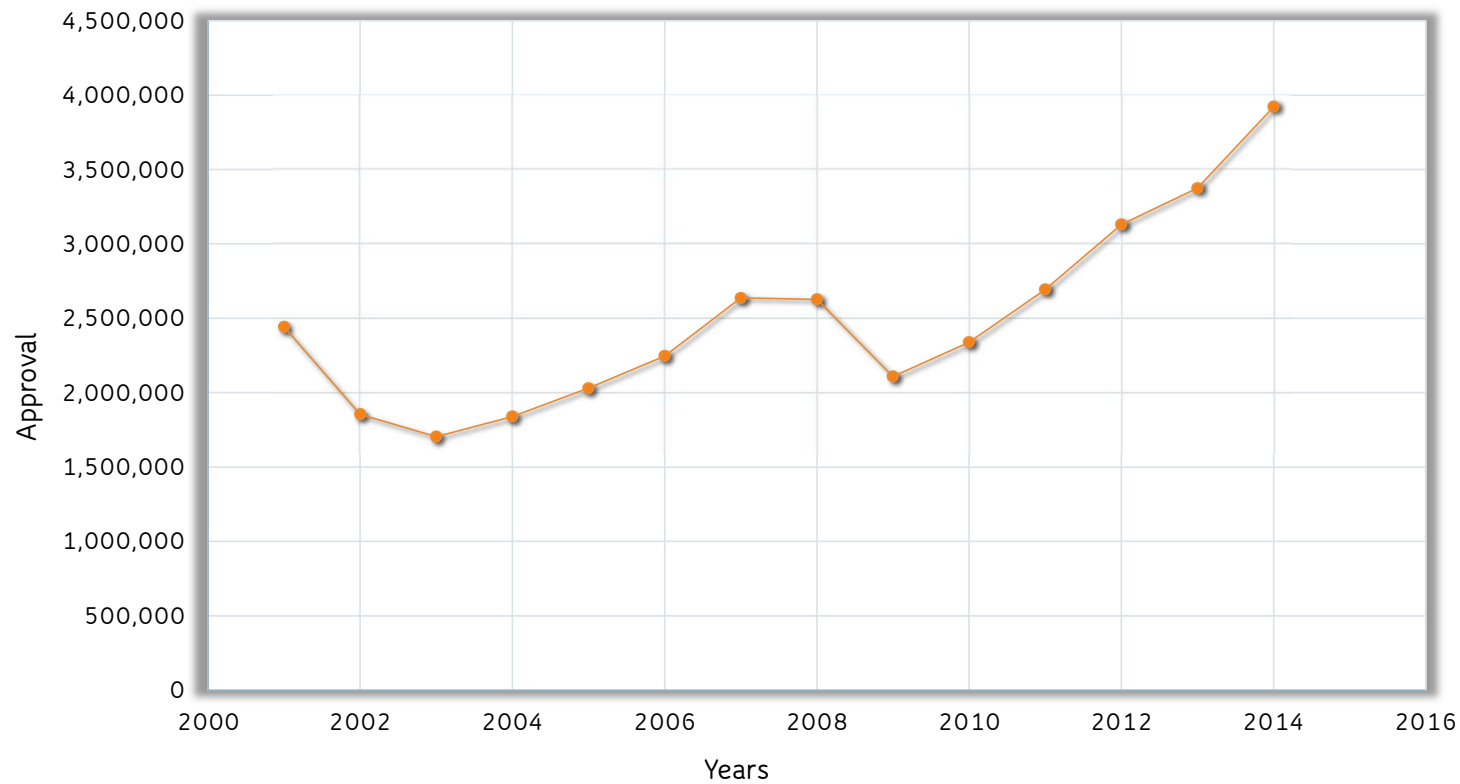
During the attack

- Many Wall Street institutions were evacuated, including the New York Stock Exchange.
- The market dropped 684 points, or 7.1 percent, on the first day of trade after the attacks.
- In the first three months, New York City's economy alone shed 143,000 jobs each month and \$2.8 billion in compensation.
- 60 percent of lost employment were in the financial and aviation industries, which suffered the worst losses.
- The damage to the World Trade Center is believed to have cost \$60 billion.
- Cleaning up the trash at Ground Zero cost \$750 million.





High-Level progression of approval after the World trade Center event ...



Did you notice the graph got drastically low in 2009?

And reason, you might already know ....

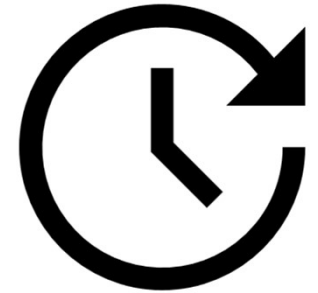


The Great and  
longest  
Recession of  
Century !  
2007-2009



So, Economy plays an important role when it comes to Visa approvals... But can't ignore other dependent factors too.

1. Housing prices increased, then fell, due to the subprime mortgage crisis.
2. Banks went into crisis.
3. The stock market plummeted, erasing wealth.



As, we have analyzed and researched reasons (Descriptive) behind varying approval counts. Its time to do some predictions . . .

# Now it's a turn of our research questions..

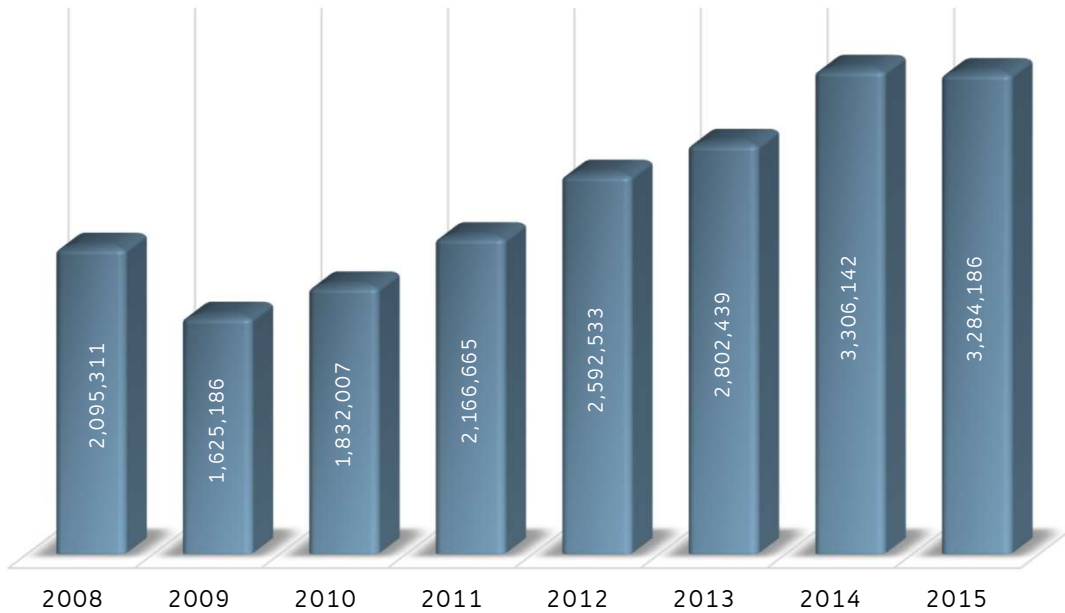
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- Keeping some inevitable events aside, what can be the upcoming years' approval count for F-1, H-1B, B-1,2 , O-1 visas combinedly ?
- Coming year how many H-1B petitions are having chance of getting approved ?
- What factors may affect Visa Approval rate ?



1

## Prediction for coming year (Asia)



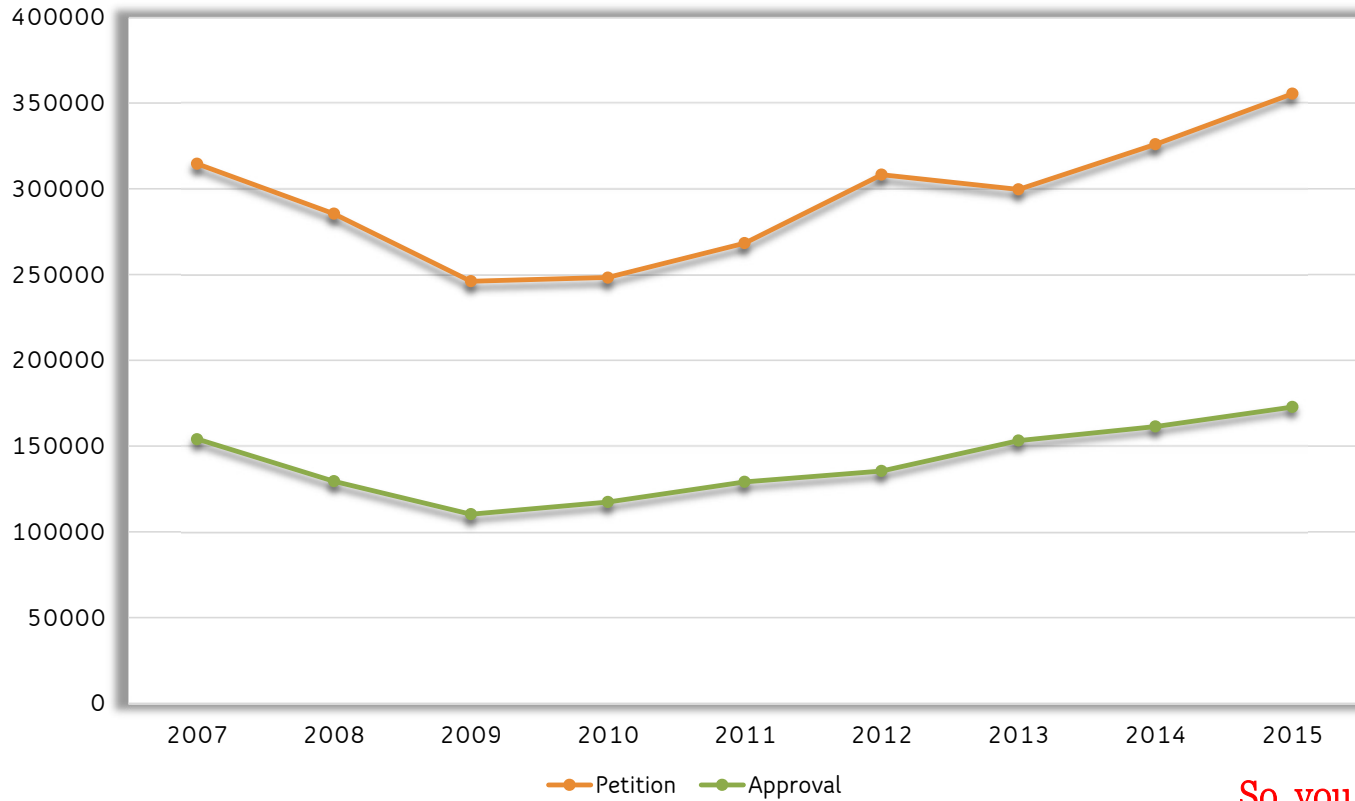
By Training a Time-Series model for the data for 2007-2014 , we got an approx. approval count for Fiscal year 2015.





2

H-1B Petition V/S Approvals



Using data from 2007 to 2014, we trained a Linear Regression model to predict the count of H-1B filings and approvals for the year of 2015.

So, you can guess the chances of your H-1B getting picked :p !



With this, we conclude our Data Story on the note:



- Visa approvals are not dependent on single attribute. There can be many affecting factors such as GDP, Inevitable events, Recessions, Political change etc.
- Tourist visas are being on the top among all visa types.
- Visa approvals may also depend on relationships between countries. As after few events, USA can reduce or ban approvals for certain countries.
- Getting H-1B approved can majorly be dependent on GDP and economic condition of country.

A photograph of a beach with a large pile of colorful sea glass in the foreground. The sea glass comes in various colors including blue, green, yellow, orange, red, and purple. In the background, the ocean waves are breaking on the shore. A semi-transparent white box is overlaid on the left side of the image, containing the text.

Thank you !  
For being  
part of our  
Data Story ...

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