



*The most important foreign languages for  
English-speaking job seekers in global development and humanitarian relief  
By Ma. Eliza J. Villarino, June 2016*

# Background

A close-up, black and white photograph of a hand holding a pen, poised to write on a document. The document has text that is partially visible, including "convicted of or imprisoned of a felony less than seven", "offenses and disposition. (Convictions are not an automatic disqualification)", and "EMPLOYMENT". The right side of the image is overlaid with a blue semi-transparent rectangle containing white text.

Employers in the aid industry often look for candidates with foreign language skills

Question for job seekers:  
Which foreign language to invest time in learning

Question for universities:  
Where to focus language training on

# Where to find data

The screenshot shows the Reliefweb website interface. At the top, there's a navigation bar with the Reliefweb logo and links for LABS, BLOG, MOBILE, ABOUT US, HELP, and LOGIN. Below this is a secondary navigation bar with links for HOME, UPDATES, COUNTRIES, DISASTERS, TOPICS, ORGANIZATIONS, JOBS (highlighted in a red box), and TRAINING. The main content area is titled 'Jobs' and describes it as a gateway for humanitarian and development jobs. It features two columns: 'For professionals' showing 2,583 open jobs and 'For organizations' showing 4,459 organizations. A yellow box with an envelope icon prompts users to 'Looking for a job? Subscribe via email'. A warning icon and text advise users to 'Keep an eye out for fraudulent job vacancies' and link to 'ABOUT FAKE JOBS'. On the left, a purple 'Filter results' sidebar shows a 'Type' filter and a 'Career Category' filter with 'Media/Communication' selected. A search bar at the bottom right contains the text 'Search content with keywords' and a '» SEARCH OPTIONS' link. Below the search bar, it indicates '90 entries found' and shows a map of South Africa.

reliefweb

LABS BLOG MOBILE ABOUT US | HELP | LOGIN

HOME UPDATES COUNTRIES DISASTERS TOPICS ORGANIZATIONS **JOBS** TRAINING

## Jobs

Your gateway for humanitarian and development jobs. Search and/or drill down with filters to narrow down the listings.

For professionals

**2,583** open jobs

Looking for a job?  
Subscribe via email

For organizations

**4,459** organizations

Keep an eye out for fraudulent job vacancies. ▶ [ABOUT FAKE JOBS](#)

**Filter results** [clear all](#)

► Type

▼ Career Category [clear](#)

WITH Media/Communication

Search content with keywords

» [SEARCH OPTIONS](#)

90 entries found

South Africa

## Reliefweb:

- 2,000+ open jobs at any given time
- Publicly available
- Job ads from 2011 can be extracted via API

# How to measure demand



- Focused on job ads that are (1) written in English and (2) indicating the position is located in English-speaking donor countries (US, UK, Canada, Australia and Ireland)
- Based on the proportion of job ads seeking English-speakers with certain foreign language skills (French, Arabic, Spanish, Russian, Chinese, Portuguese and “local” languages)



# Collecting and cleaning data

```
## {r}
library(jsonlite)
library(plyr)
library(stringr)
library(gdata)

rwjobsraw1 <- fromJSON("http://api.reliefweb.int/v1/jobs?offset=0&limit=1000&preset=analysis&
filter[field]=date.created&filter[value][from]=2015-05-01T00:00:00%2B00:00&filter[value][to]=
2015-05-31T00:00:00%2B00:00&&fields[include][]=title&fields[include][]=body&fields[include][]=
theme.name&fields[include][]=country.name&fields[include][]=type.name&fields[include][]=exper
ience.name&fields[include][]=career_categories.name&fields[include][]=date.created&fields[inc
lude][]=id&fields[include][]=source.name&fields[include][]=source.type.name")

#### Assign data set to "rwjobs1" and review column names
rwjobs1 <- rwjobsraw1$data$fields
colnames(rwjobs1)
View(rwjobs1)

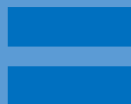
#### Unlist nested lists
rwjobs1$theme <- lply(rwjobs1$theme, unlist)
rwjobs1$type <- lply(rwjobs1$type, unlist)
rwjobs1$experience <- lply(rwjobs1$experience, unlist)
rwjobs1$career_categories <- lply(rwjobs1$career_categories, unlist)
rwjobs1$country <- lply(rwjobs1$country, unlist)
rwjobs1$date <- lply(rwjobs1$date, unlist)
rwjobs1$source <- lply(rwjobs1$source, unlist)

#### Clean dataset by removing unnecessary characters and splitting strings
rwjobs1$source <- gsub("\\c\\(", "", rwjobs1$source)
rwjobs1$source <- gsub("\\\"", "", rwjobs1$source)
rwjobs1$source <- gsub("\\\\", "", rwjobs1$source)
source_split <- strsplit(rwjobs1$source, split = ",")
select_el <- function(x, index) {x[index]}
org_name <- lapply(source_split, select_el, index = 1)
org_type <- lapply(source_split, select_el, index = 2)
rwjobs1$organization <- as.character(org_name)
rwjobs1$organization_type <- as.character(org_type)
rwjobs1$source <- NULL
```

102,343

unique data entries or

**job ads** posted from  
March 2011 to June 15, 2016.





# Exploring the data

English

русский

French

العربية

Português

Spanish

"local"

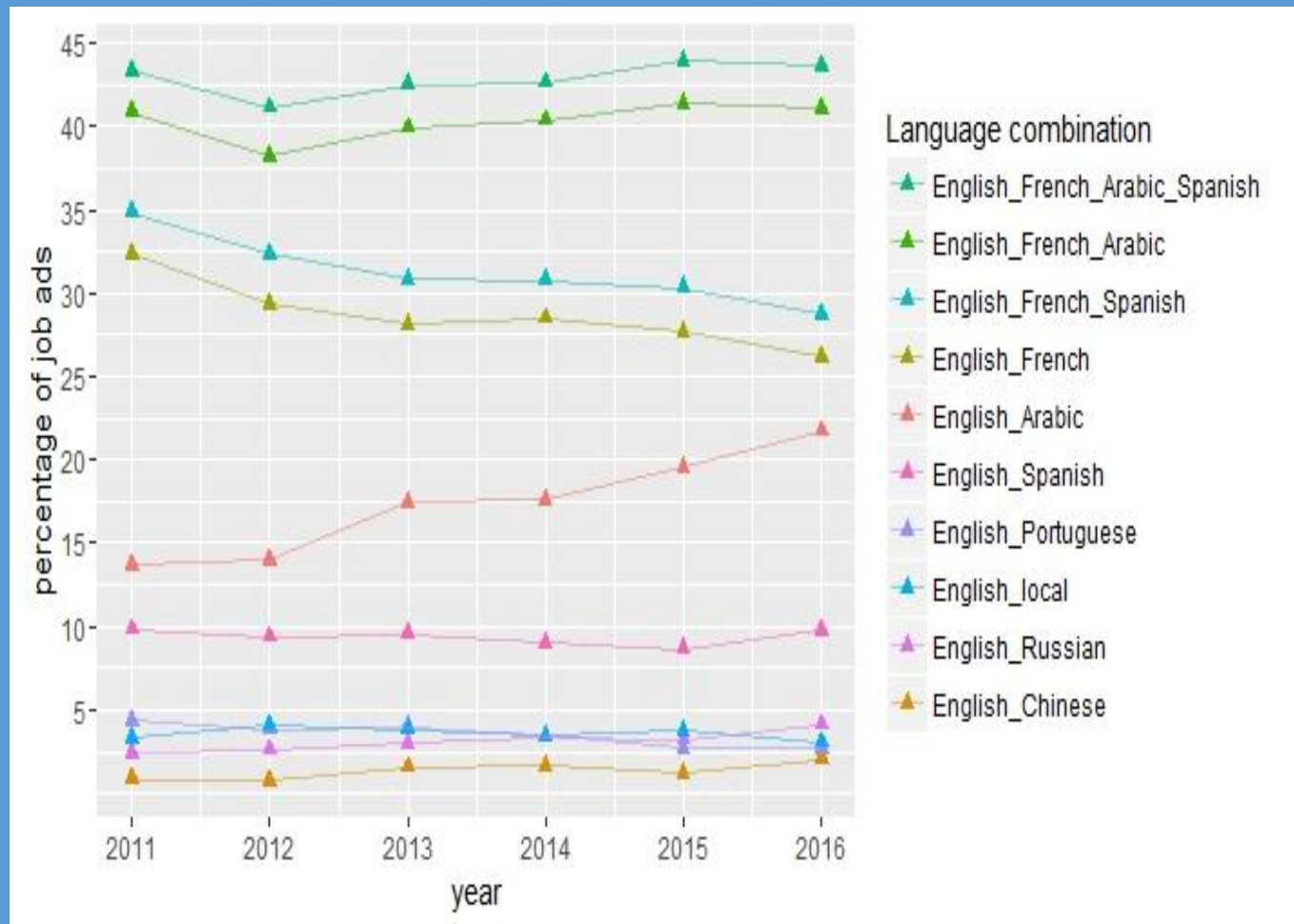
中文

- Counted and added up mentions of English and foreign languages in the ads, then divided the sums by the number of total job ads (71,655 after filtering based on the criteria)
- Filtered the data by year to see annual patterns in the demand



# Annual demand trends

year	English-French	English-Arabic	English-Spanish	English-Russian	English-Chinese
2011	32.31	13.65	9.84	2.43	0.84
2012	29.37	13.98	9.4	2.61	0.71
2013	28.11	17.45	9.58	3.04	1.56
2014	28.49	17.59	8.99	3.4	1.66
2015	27.72	19.52	8.66	3.24	1.17
2016	26.15	21.72	9.79	4.12	2.06
	English-Portuguese	English-local	English-French-Arabic	English-French-Spanish	English-French-Arabic-Spanish
2011	4.4	3.34	40.86	34.85	43.34
2012	3.84	4.06	38.24	32.35	41.13
2013	4.01	3.81	39.91	30.83	42.51
2014	3.43	3.46	40.38	30.79	42.63
2015	2.74	3.77	41.4	30.34	43.93
2016	2.75	3.09	41.08	28.75	43.61



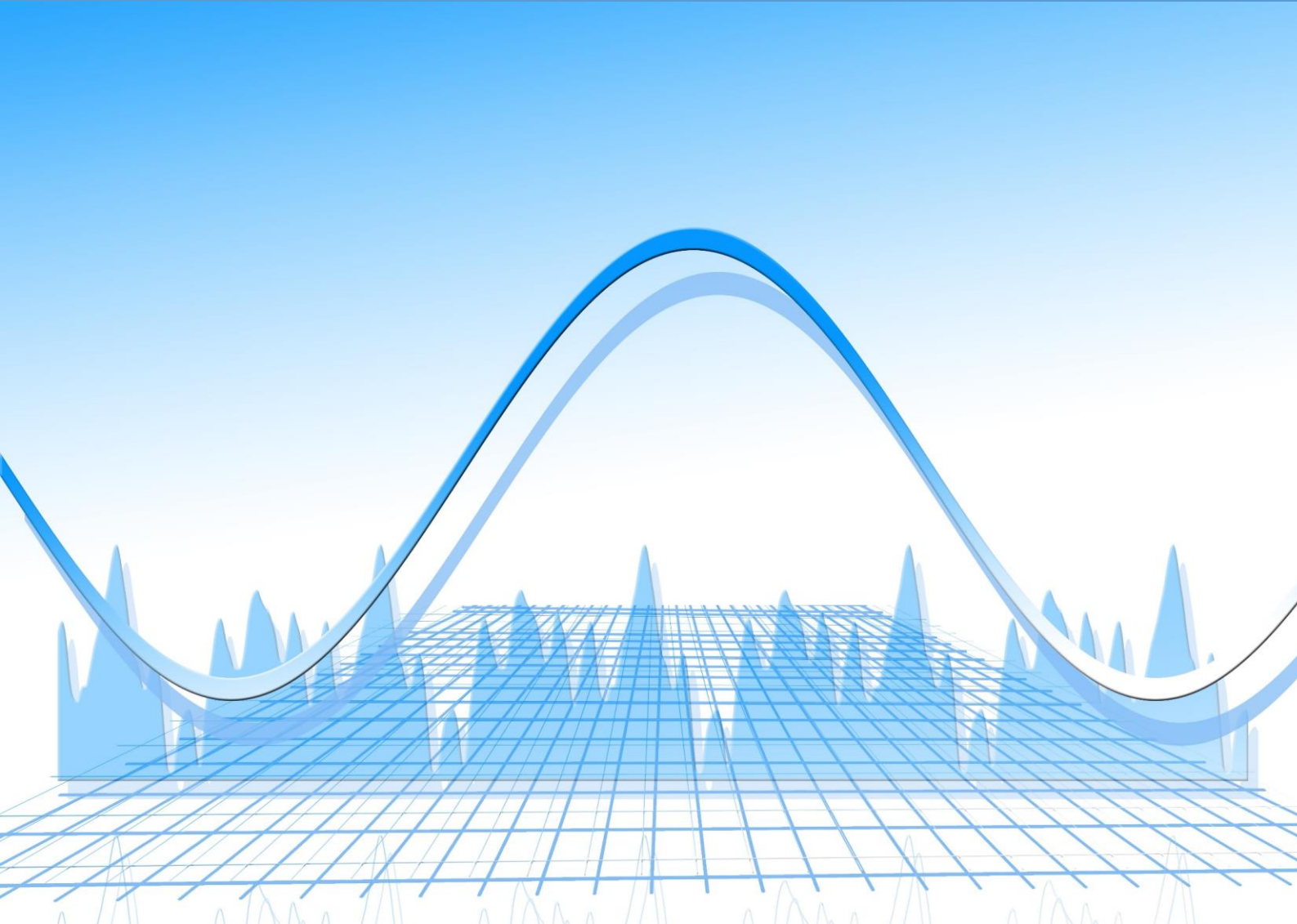
# Observations

A magnifying glass with a black frame is held over a green background filled with a binary code pattern of black 0s and 1s. The lens of the magnifying glass is positioned over the center of the image, showing a magnified view of the binary code. A person's thumb is visible at the bottom right, holding the handle of the magnifying glass.

- Highest demand: English-French speakers; least demand: English-Chinese speakers
- About 4 in 10 jobs seek English-French-Arabic speakers
- Over the last 5 years: declining demand for English-French speakers; increasing demand English-Arabic job candidates
- A steady demand for English speakers who know Spanish, Russian, Portuguese, Chinese and local languages



# Analyzing data



## Performed:

- One-sample t-tests (hypothesis testing of the assumptions about the demand for foreign language skills)
- Two-sample z-test between the demand for Portuguese and that for local languages
- Linear regression to see whether foreign aid affects the demand for English-French and English-Arabic speakers

# Results

- Significant relationship between foreign aid (commitments or disbursements) and the demand for English-French job candidates
- Greater significance of the relationship between foreign aid commitments and the demand for English-French job candidates than the relationship between foreign aid disbursements and such a demand
- No significant relationship between foreign aid and the demand for English-Arabic speakers apparently



# Takeaways

## English speakers who know...

French

Arabic

Spanish

Russian

Local languages

Portuguese

Chinese

## Sought by (in 2016)

~ 3 in 10 jobs

~ 2 in 10 jobs

~ 1 in 10 jobs

~ 4 in 100 jobs

~ 3 in 100 jobs

~ 3 in 100 jobs

~ 2 in 100 jobs

Demand for  
English-Arabic  
speakers is  
catching up  
with that for  
English-French  
speakers

Foreign aid affects  
trends in the  
demand for English-  
French speakers but  
not the patterns in  
the demand for  
English-Arabic  
speakers

# Recommendations

- For aid industry job seekers, invest in learning French
- If already fluent in French, consider learning Arabic
- For universities with academic programs focused on global development and humanitarian relief:
  - Concentrate language training on French and Arabic
  - If without language training component, this study provides a good case for starting such a program or partnering with language learning centers