

Migration Report

Priya Ravindra Dingorkar

BE in CE & Pursing Master of Business Analytics

Aarathy Babu

B.Tech

Junhao Wang

Accounting

Dilinie Seimon

BSc.

Report for Australian Government COVID19

10 June 2020

ETC5513, Group 11 Junhao & Aarathy & Dilinie & Priya

(03) 9905 2478

questions@company.com

ABN: 12 377 614 630

Research Questions

- Looking at the Skill level, Occupations across the globe
- 1. Graph for Skill Level
- 2. Graph for Overgulaified
- 3. Table for different Occupations

Introduction

What is OECD?

The Organisation for Economic Co-operation and Development (OECD) is a group of 34 member countries that discuss and develop economic and social policy. OECD members are democratic countries that support free-market economies

What is ISCED?

The International Standard Classification of Education is a statistical framework for organizing information on education maintained by the United Nations Educational, Scientific and Cultural Organization. It is a member of the international family of economic and social classifications of the United Nations.

In figure 1 talks about the different **Skill Levels**. It is defined as a function of the complexity and range of tasks and duties to be performed in an occupation into groups that people have across the globe in. Let us understand the different skills. Skill Level 01 typically involve the performance of simple and routine physical or manual task, these task require physical strength and/or endurance. Skill Level 02 typically involve the performance of tasks such as operating machinery and electronic equipments, they should also have the ability to read and write to a certain extend. Skill Level 03 involves the performance of complex technical and practical tasks that require an extensive body of factual, technical and procedural knowledge in a specialized feild, requires high level literacy and numeracy and well developed interpersonal communication skills. The graph here shows that **Europe** have the highest number of migrants with all these skill levels. **North America** has very less migrants involved in skill level 01 and most migrants have skill level 02 and level 03. **South America** have

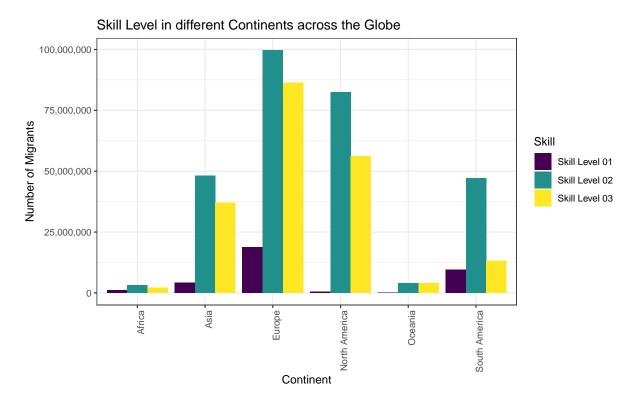


Figure 1: Types of Skill

Table 1: List of Occupations that people engage in after Migration

Occupations	Africa	Asia	Europe	North America	Oceania	South America
Armed Forced Occupations	16578	134184	1161864	57483	78087	123354
Clerical Support Worker Occupations	346142	3335802	20918780	807736	854191	3722436
Craft and Related trade Occupations	507452	3238802	23205091	1746178	511284	8491454
Elementary Occupations	1039390	4126580	19477937	490819	63336	10020788
Managerial Occupations	295844	1351722	12933257	1541335	1050874	1736952
Plant and Machine Operators and Assembler Occupations	402639	3854407	14180541	741683	698375	5953850
Professional Occupations	820935	7401650	37449078	3015180	1699599	5056319
Service and Sales Worker Occupations	817080	4945890	31421967	2355201	1124498	11610410
Skilled Agricultural, Forestry and Fishery Occupations	187722	1537852	8223032	73344	784091	4668935
Technicians and Associate Professional Occupations	554736	5544054	34331795	2866619	1120886	3800846

more people with skill level 02 followed by skill level 03 and skill level 01. **Oceania** has verey few migrants with skill level 01 and people with skill level 02 and skill level 03. Most of the migrants in **Asia** have skill level 02 and skill level 03. **Africa** has very migrants with all the skill levels.

In figure 2, Overqualified indicates whether a worker is highly educated for the job that he is doing in a particular continent with respect to their education attainment he has recieved. Looking at the figure closely, we have seen that, **North America** has the highest over qualified people, followed by **Europe**, **South America**, **Asia**, **Africa** and **Oceania**. Not overqualified here refers to that, most migrants have just the right level of education attainment. We see that the top three continents with the right qualification amongst the migrants are **Europe**, **North America** and **Asia**

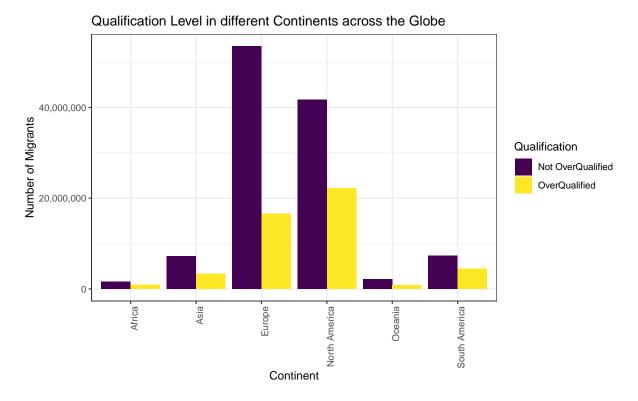


Figure 2: Occupation Types

In table 1 we see the different occupation (will explain rest of it in master to work in the master) in order to work in master.

Table 2: *Top 10 destinations*

Country	migrant_Count		
United States of America	323127504		
Japan	127094759		
Mexico	119561904		
Germany	82424843		
Tunisia	78741055		
France	66190412		
United Kingdom	64381731		
Italy	60383365		
Korea	48141031		
Spain	45977782		

Gender Gap in Migration

Throughout history, humans have migrated for various reasons that could be classified as economic, social, political, etc. This section focuses on the preferred destination countries for migration as well as the gender difference across age groups in the migrant population in destination countries.

The table 2 depicts the preferred destinations for migration in the year 2015/16. Historically, the USA have been the most popular destination for migration and has remained the same in the year 2015-16, with the most preferred destinations being the USA, Japan, and Mexico across all ages.

Among the international migrants, 50.94 % are females and 49.06 % are males. Figure 3 shows the gender gap in each country's migrant population and it is observed that in 2015-16, women constituted more in the migrant population especially in the top preferred destinations like the USA, Japan, etc whereas the gap is relatively low in countries like Belgium, Finland, etc.

In 2015-16, the most number of migrants fell in the age group 25-64, with females being higher in number compared to males in countries like the USA, Mexico, Germany, etc. In countries like Japan, Korea and Spain it can be seen that there is no gender gap in the migrant population of age group 25-64 whereas in countries like Poland and Turkey the number of males is higher than females for the same age group. Amongst the age group 15-24, there is a relatively low gender difference in the migrant population compared to the other age groups and the trend is uniform in almost all the countries whereas amongst the migrants who are 65 years old and above, the number of females is higher than that of males in the USA, Japan, Italy, etc and Mexico being one of the top destinations for migration, saw an influx of an equal number of males and females aged over 65 in the year 2015-16.

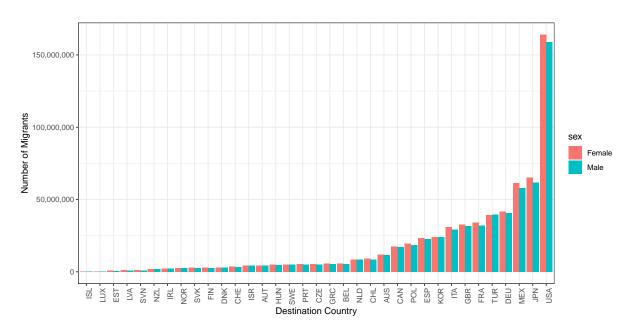


Figure 3: Gender difference in migrant population in countries

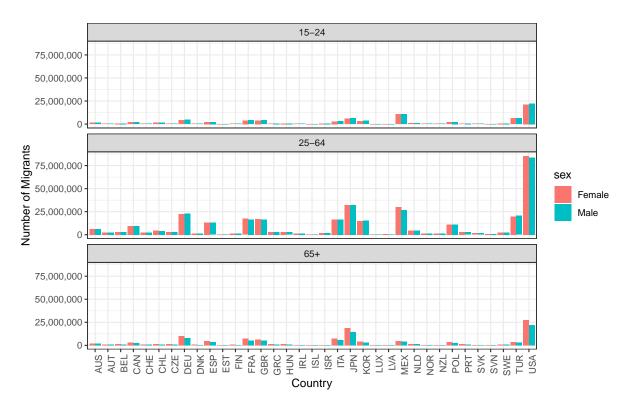


Figure 4: Gender difference in migrant population across age groups in countries

Limitations

The Database on Immigrants in OECD Countries (DIOC) 2015/16 provides information on age, duration of stay, labour force status and occupation of the migrants. The limitations of the dataset is as follows,

1. Confidentiality and Reliability issues

Due to confidentiality issues, the place of birth is recorded at the continental level such as Africa, Asia, Europe, etc.instead of the country level in the dataset, therefore the analysis is focused on only the destination countries. Also, there is only limited details available on the important variables like educational qualification and skills.

2. Unavailability of data

Unavailability of data on variables like age, skills, occupation, labour force status and educational qualification proved to be a limitation to the analysis of the dataset.

3. Inconsistency of data

The dataset contains inconsistency in data for example the reference population for Switzerland, Luxembourg and New Zealand is 15+ and there is no information on the age group 0-14. Due to this reason and the fact that 0-14 age group belongs to the minor category, the age group 0-14 was not considered for the analysis of gender gap in migrant population.

Conclusion

Migrants have made significant impacts on socio-economic as well as the political sphere of a destination countries. From the analysis on the Database on Immigrants in OECD Countries (DIOC) released by The Organisation for Economic Co-operation and Development (OECD), we conclude the following,

- 1. In the year 2015-16, 50.94
- 2. People between 25-64 years old migrated more compared to the other age groups in year 2015-16.

The Education Level of Australian Residents

In the past few decades, Australia has acquired many skilled migrants, contributing substantially towards the local economy. Hawthorne (2010) states that by 2007, two thirds of them were former international students recruited in Australia rather than offshore applicants. This transition has also been named as the "two-step-migration" by Hawthorne (2010).

This section will analyse the education levels of current residents of Australia categorized by their duration of stay in the country.

The dataset provides information on the education levels of Australian residents and their duration of stay within the country.

The residents of Australia have been categorized based on their duration of stay within the country as

- native born
- less than 5 years
- between 5 10 years
- more than 10 years

The level of education has been categorized using a broad three-category classification as

- low
- medium
- high

However the duration of stay of 25.9% of Australian residents is unknown, while the education level of 24.6% residents is unknown. These values will also be used in the analysis as unknowns, to provide a more accurate overlook on the overall numbers.

Figure 5 shows the breakdown of Australian residents based on their duration of stay in Australia and their level of education; the higher counts of residents are represented by light blue and the lower number of residents are represented by dark blue. The dataset contains a few unknowns about the Australian resident, some on the level of education and some on the duration of stay, which is also represented in figure 5.

It's obvious that the highest counts of Australian residents are natives, and is interesting that a majority of them have a medium level of education, followed by natives having a higher level of education and only a few of them having a low level of education. It's also interesting how the numbers of Ausralian residents who have been in the country for over ten years, shows higher counts of numbers

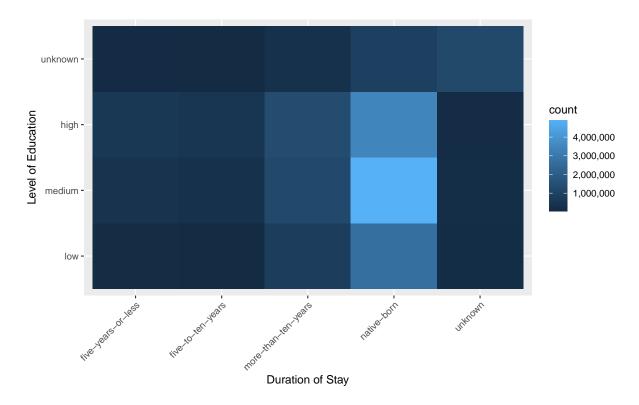


Figure 5: Breakdown of Australian residents based on their level of Education and duration of stay in Australia

than those who have been in the country for a lower duration of time. It can also be seen that in all three categories of non-native born Australians, most have received a high level of education.

Table 3: Percentages of Australian residents with different levels of education over each category of duration of stay

Duration of stay	High level of education (%)	Medium level of education (%)	Low level of education (%)	Unknown level of education (%)
five-to-ten-years	54%	31%	9%	5%
five-years-or-less	50%	34%	10%	6%
more-than-ten-years	37%	34%	21%	8%
native-born	29%	41%	22%	8%

A breakdown of Australian residents with different durations of stay, into their level of education is represented in table 3. It can be seen that the majority of individuals who have obtained residency in Australia recently have a high level of education while only a few of them have a low level of education. A significant increase in percentages of individuals with higher levels of education obtaining residency in Australia can also be seen from table 3. Most native-Australians (41%) have a medium level of education, while others with shorter durations of stay in Australia have much higher levels of education.

Green, Kler, and Leeves (2007) states that the immigration policies in Australia has placed an increased focus in skill-based selection criteria, and has resulted in overeducation of recently arrived Australian immigrants. This can be attributed to the most of the recent immigrants having a high level of education as represented by figure 5 and table 3.

References

- Bai, Y, L Yao, T Wei, F Tian, DY Jin, L Chen, and M Wang (2020). Presumed asymptomatic carrier transmission of COVID-19. *Jama* **323**(14), 1406–1407.
- Green, C, P Kler, and G Leeves (2007). Immigrant overeducation: Evidence from recent arrivals to Australia. *Economics of Education Review* **26**(4), 420–432.
- Hawthorne, L (2010). How valuable is "two-step migration"? Labor market outcomes for international student migrants to Australia. *Asian and Pacific Migration Journal* **19**(1), 5–36.
- Hyndman, RJ (2016). forecast: Forecasting functions for time series and linear models. cran.r-project.org/package=forecast.
- Hyndman, RJ and Y Khandakar (2008). Automatic time series forecasting: the forecast package for R. *Journal of Statistical Software* **26**(3), 1–22.
- Hyndman, RJ and AB Koehler (2006). Another look at measures of forecast accuracy. *International Journal of Forecasting* **22**(4), 679–688.
- ILO (2012). *International Standard Classification Of Occupations*. Accessed on 2020-06-04. https://www.ilo.org/public/english/bureau/stat/isco/docs/publication08.pdf.
- OECD (2016). *Database on Immigrants in OECD Countries (DIOC) 2015/16*. Database on Immigrants in OECD Countries. Accessed on 2020-06-01. http://www.oecd.org/els/mig/dioc.htm.
- OECD (2019). The new immigrants Global trends in migration towards OECD countries between 2000/01 and 2015/16. Accessed on 2020-06-05. http://www.oecd.org/els/mig/Migration-data-brief-4-EN.pdf.
- Tierney, N, D Cook, M McBain, and C Fay (2020). *naniar: Data Structures, Summaries, and Visualisations* for Missing Data. R package version 0.5.0. https://CRAN.R-project.org/package=naniar.
- Variables, Coverage, Sources (2016). OECD. http://www.oecd.org/migration/mig/methodology-DIOC-2015-2016.pdf.
- Wickham, H, M Averick, J Bryan, W Chang, LD McGowan, R François, G Grolemund, A Hayes, L Henry, J Hester, M Kuhn, TL Pedersen, E Miller, SM Bache, K Müller, J Ooms, D Robinson, DP Seidel, V Spinu, K Takahashi, D Vaughan, C Wilke, K Woo, and H Yutani (2019). Welcome to the tidyverse. *Journal of Open Source Software* 4(43), 1686.

- Wickham, H, J Hester, and R Francois (2018). *readr: Read Rectangular Text Data*. R package version 1.3.1. https://CRAN.R-project.org/package=readr.
- Wickham, H and D Seidel (2019). *scales: Scale Functions for Visualization*. R package version 1.1.0. https://CRAN.R-project.org/package=scales.
- Xie, Y (2016). bookdown: Authoring Books and Technical Documents with R Markdown. ISBN 978-1138700109. Boca Raton, Florida: Chapman and Hall/CRC. https://github.com/rstudio/bookdown.
- Zhu, H (2019). *kableExtra: Construct Complex Table with 'kable' and Pipe Syntax*. R package version 1.1.0. https://CRAN.R-project.org/package=kableExtra.