

An analysis of Michelin Starred Restaurants worldwide 2019

Contents

1. Executive Summary
2. Introduction
 - 2.1 The Michelin Guide 2020
 - 2.2 The World's 50 Best Restaurants
3. Data
4. The Michelin Guide 2020
 - 4.1. Overview
 - 4.2. Cuisines
 - 4.3. The UK
5. The Worlds 50 Best Restaurants
6. Comparison of guides
7. Final thoughts

1. Executive Summary

Main findings:

There are 3,299 restaurants across 31 countries listed in the 2020 Michelin Guides.

2. Introduction

2.1 THE MICHELIN GUIDE 2020

Amongst the culinary world, there are few greater accolades than a restaurant being awarded a Michelin star (or three!). Foodies and fine dine lovers, like myself, see the experience of dining at one of these award winning restaurants, as just that, an experience, and thus take to looking at guides such as The Michelin Guide and The Good Food Guide to help us determine which restaurant is next worth visiting.

The guide states the following definitions for each of the Michelin star awards:

One star: "a very good restaurant"

Two stars: "excellent cooking that is worth a detour"

Three stars: "exceptional cuisine that is worth a special journey"

How are stars awarded.....

2.2 THE WORLD'S 50 BEST RESTAURANTS 2019

Taken from The World's 50 Best Restaurants website:

"Since 2002, The World's 50 Best Restaurants has reflected the diversity of the world's culinary landscape. Thanks to its panel of more than 1,000 culinary experts, as well as its structured and audited voting procedure, the annual list of the world's finest restaurants provides a snapshot of some of the best destinations for unique culinary experiences, in addition to being a barometer for global gastronomic trends."

How is the list compiled.....

"The World's 50 Best Restaurants list is compiled from the votes of the "World's 50 Best Restaurants Academy", a group of 26 panels established to make the ranking.^{[1][7]} The world is divided into regions, with a chairperson in each region appointed for their knowledge of their part of the restaurant world. These chairs each selected a voting panel of 40 members, who every year cast thousands of votes.

There is no list of nominees; each member of the international voting panel votes for their own personal choice of ten restaurants. Up to six votes can be cast for restaurants in the voter's own region, while at least four must go to restaurants outside of the home region.^[1] No voting member is allowed to vote for their own restaurant, or one in which they have an economic interest, and voters must have eaten in the restaurants they nominate within the past 18 months. The integrity of the voting process and the resulting list is adjudicated by global consultancy firm Deloitte." - wikipedia.

This list is often cited in publications around the world, including The Telegraph and as such, has now become one of the leading guides on gastronomy around the world. You would therefore think that the results of this list should run somewhat parallel to the Michelin Guide.

But how exactly does the spread of Michelin stars and the top 50 restaurants look like not only across the UK, but also the world? And what more can we understand about the types of restaurants that have received these awards?

By exploring The World's 50 best restaurants, can we determine if there is in actual fact a correlation with restaurants included in the guide and those given Michelin stars?

3. Data

Having undertaken extensive web scraping and data analysis, I have explored just these questions and more. I delved into the current edition of the online Michelin Guide for every country currently partaking in the awards - each country's guide has an individual website which had to be scraped for the data. I have also scraped The World's 50 best restaurant website, 2019 list.

The full script for this web-scraping is [here](#) and the full data analysis script can be found [here](#).

Tools and libraries used for this analysis, all in Python: Jupyter notebook, BeautifulSoup, Pandas, NumPy, Seaborn, Plotly.

The main findings of the analysis are below.

4. The Michelin Guide 2020

4.1 OVERVIEW

There are 3,299 restaurants included in the Michelin guide worldwide, compiled of individual guides from 31 countries. The following countries are included in the guide:

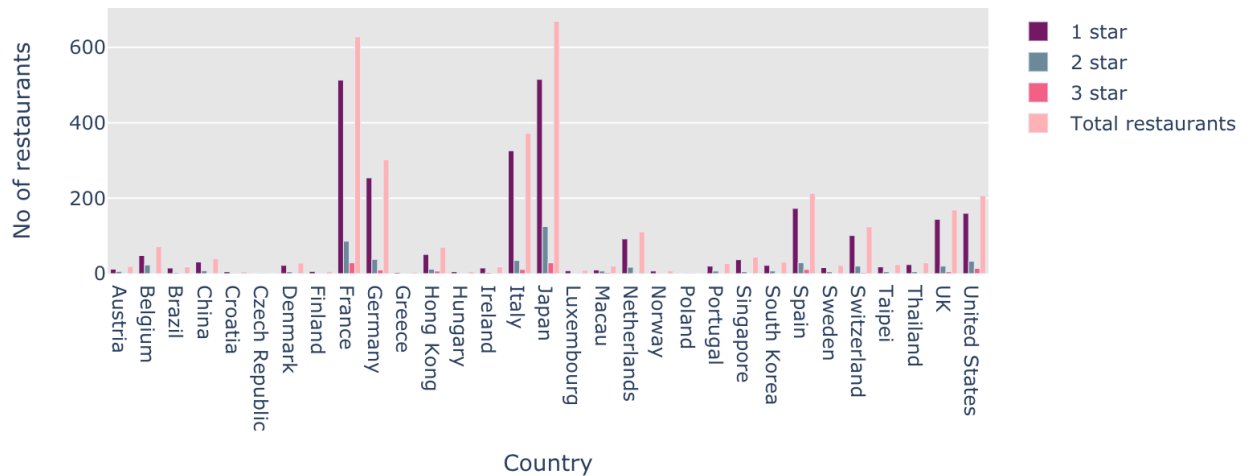
Austria, Belgium, Brazil, China, Croatia, Czech Republic, Denmark, Finland, France, Germany, Greece, Hong Kong, Hungary, Ireland, Italy, Japan, Luxembourg, Macau, Netherlands, Norway, Poland, Portugal, Singapore, Spain, South Korea, Sweden, Switzerland, Taipei, Thailand, UK, United States.

Of these 31 countries, the ten with the most starred restaurants (note that at this point, we are looking at the number of restaurants, not the total number of stars) are:

Country	
Japan	669
France	628
Italy	372
Germany	302
Spain	213
United States	207
UK	169
Switzerland	124
Netherlands	111
Belgium	72

Japan leads with the most stars worldwide, with UK coming in 6th place. We can further analyse this breakdown of stars per country, looking at how many 1 star, 2 star and 3 star restaurants there currently are in each country.

Michelin starred restaurants per country 2020

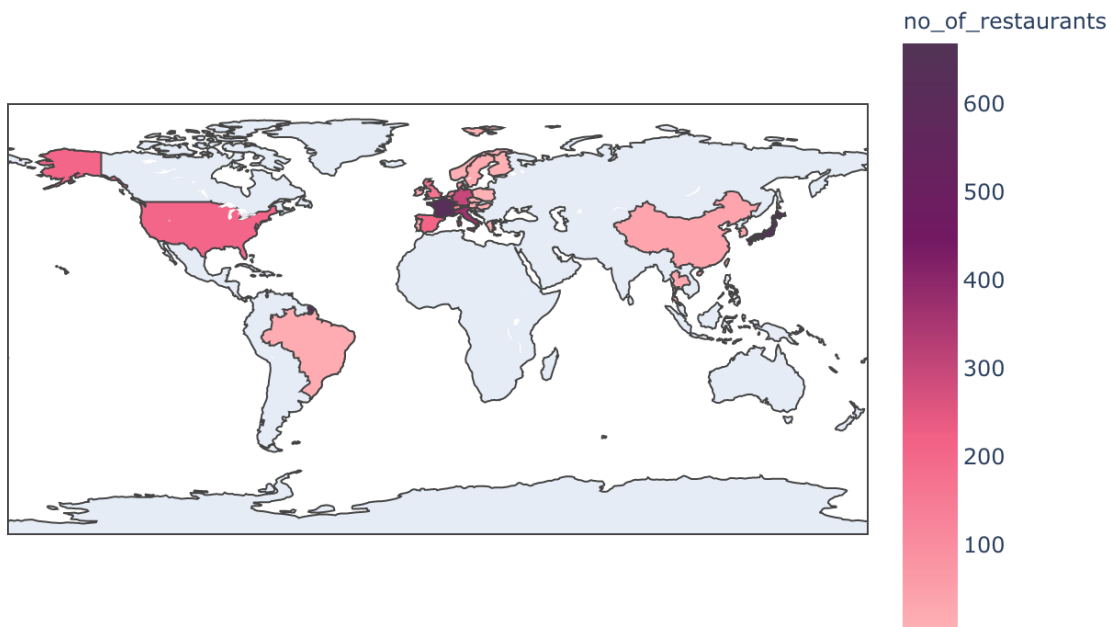


Add html link here for all charts too

Japan has the most 3 star restaurants, followed by France, Italy and Germany, which follows the pattern of countries with the most starred restaurants.

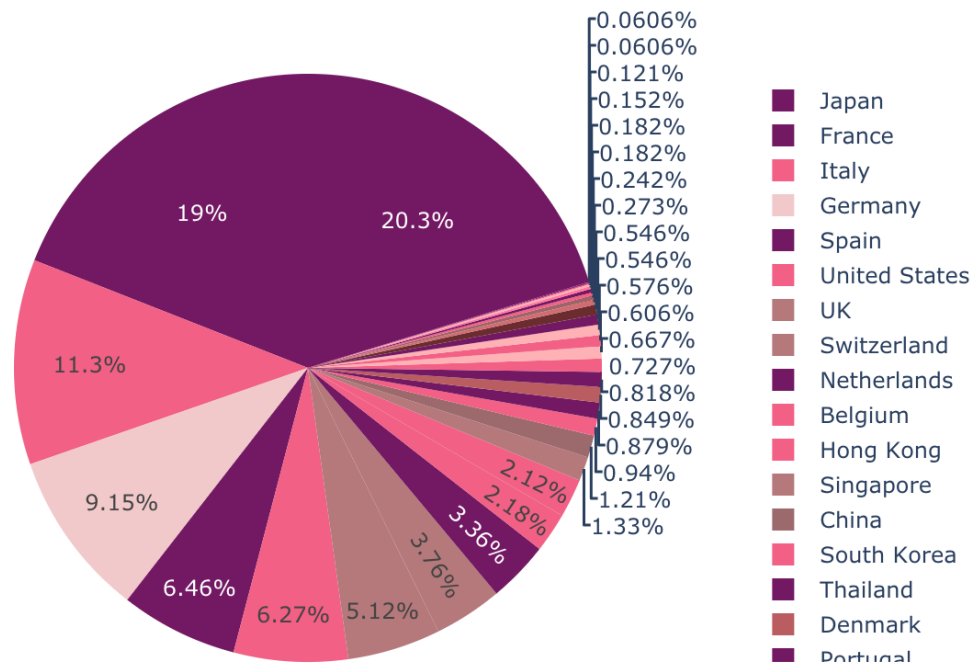
We can visualise this information on a world heat map. Find the interactive version of this [here](#).

Michelin starred restaurants by country 2020



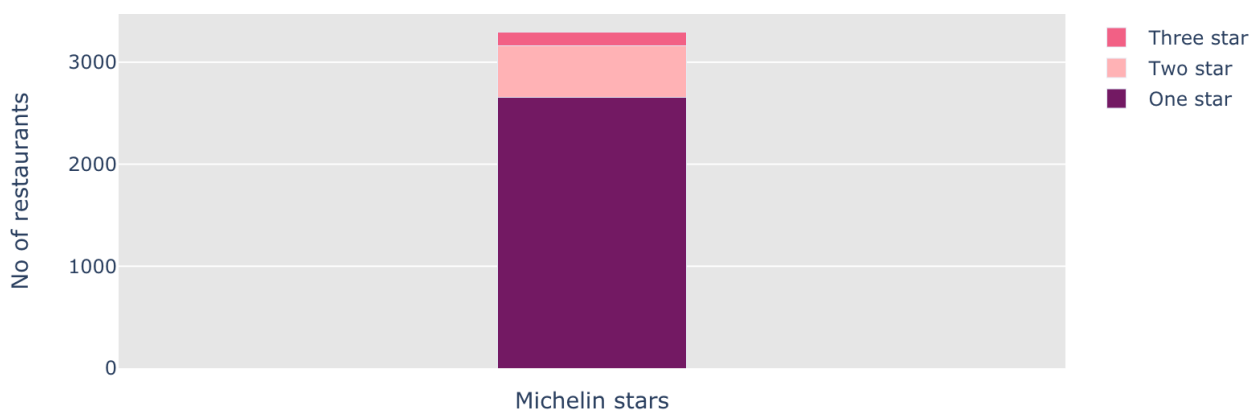
Looking at the proportional breakdown of restaurants across the world, we can see that Japan, France and Italy make up 50% of the entire list themselves.

Percentage of michelin starred restaurants by country



There are 2657 (81%) one star restaurants, 507 (15%) two star and 135 (4%) three star included in the guides worldwide. It indeed does seem that gaining three stars is a very rare achievement amongst restaurants.

Breakdown of one, two and three michelin star restaurants worldwide 2020



4.2 CUISINES

There are 103 different cuisines included in the data. It is worth noting that there are some overlaps in a handful of cuisine names, for instance we have 'French' and 'Classic French', 'Creative British' and 'Modern British'. However further investigation into this showed that this does not skew the outcomes in a way that we need to change these.

We can explore these cuisines in two different ways:

- 1) The number of restaurants of a certain cuisine, which have one star or more
- 2) The total number of stars for each cuisine. ie. if a restaurant has 3 stars, all three will be added to the total of stars in this cuisine

The top 10 cuisines with the most starred restaurants are:

cuisine	
Modern cuisine	708
Creative	450
Japanese	368
French	147
Sushi	110
Contemporary	86
Classic cuisine	68
Italian	56
Modern British	42
Cantonese	41

The cuisine with the most restaurants included in the guide is Modern Cuisine.

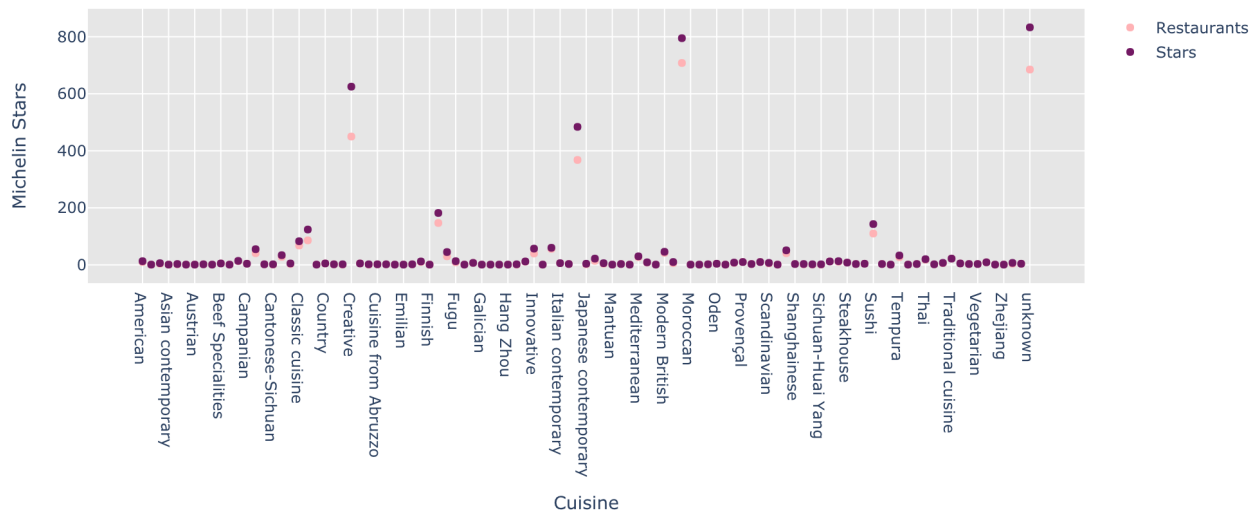
The top 10 cuisines with the most stars overall are:

cuisine	
Modern cuisine	795
Creative	625
Japanese	484
French	182
Sushi	143
Contemporary	124
Classic cuisine	83
Italian	60
Innovative	57
Cantonese	55

The cuisine with the most stars is also modern cuisine, and the majority of this top 10 list is the same as the top cuisines with the most restaurants.

We can visualise both of these breakdowns of cuisine in a scatter plot. Click onto the link to view the interactive zoomable version.

Michelin stars 2020 by cuisine



The can see there is a big difference between the two sets of data in particular for Creative, Japanese contemporary and Modern cuisine, which shows us that these cuisines most likely have more restaurants with the higher number of stars.

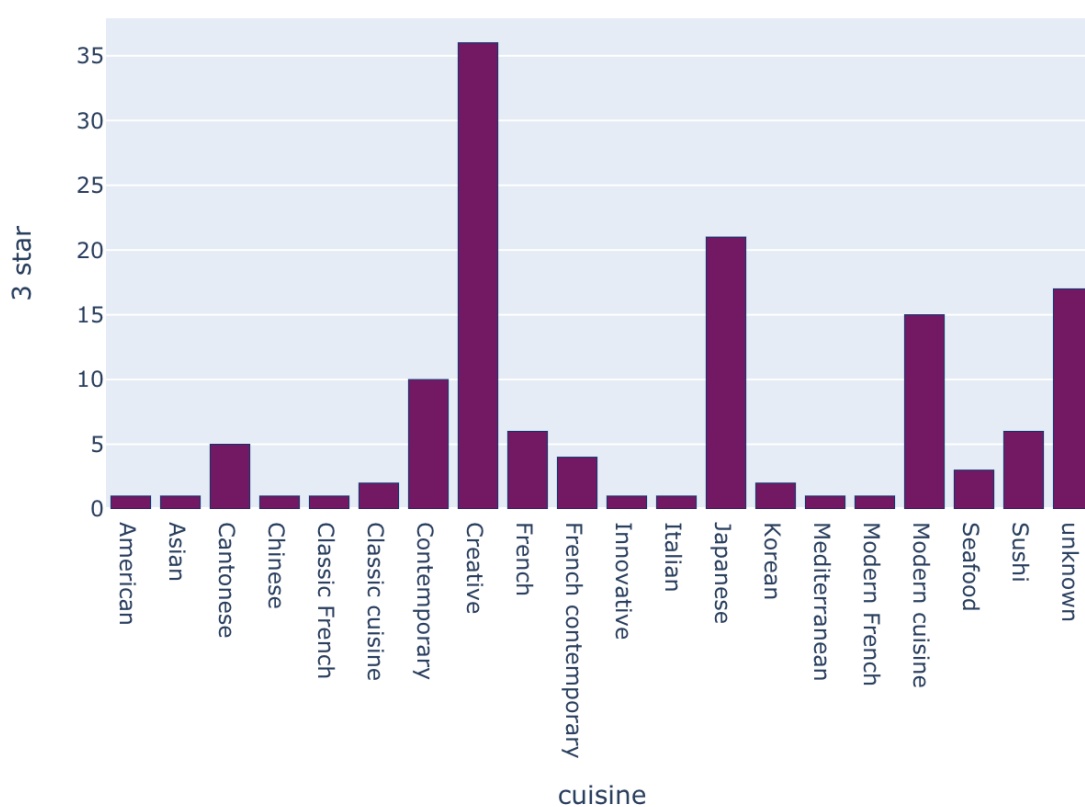
Upon further investigation, we can see that the Creative , Japanese and Modern cuisines do indeed have the highest number of restaurants with the highest 3 star accolade.

	cuisine	3 star
0	American	1
1	Asian	1
2	Cantonese	5
3	Chinese	1
4	Classic French	1
5	Classic cuisine	2
6	Contemporary	10
7	Creative	36
8	French	6
9	French contemporary	4
10	Innovative	1
11	Italian	1

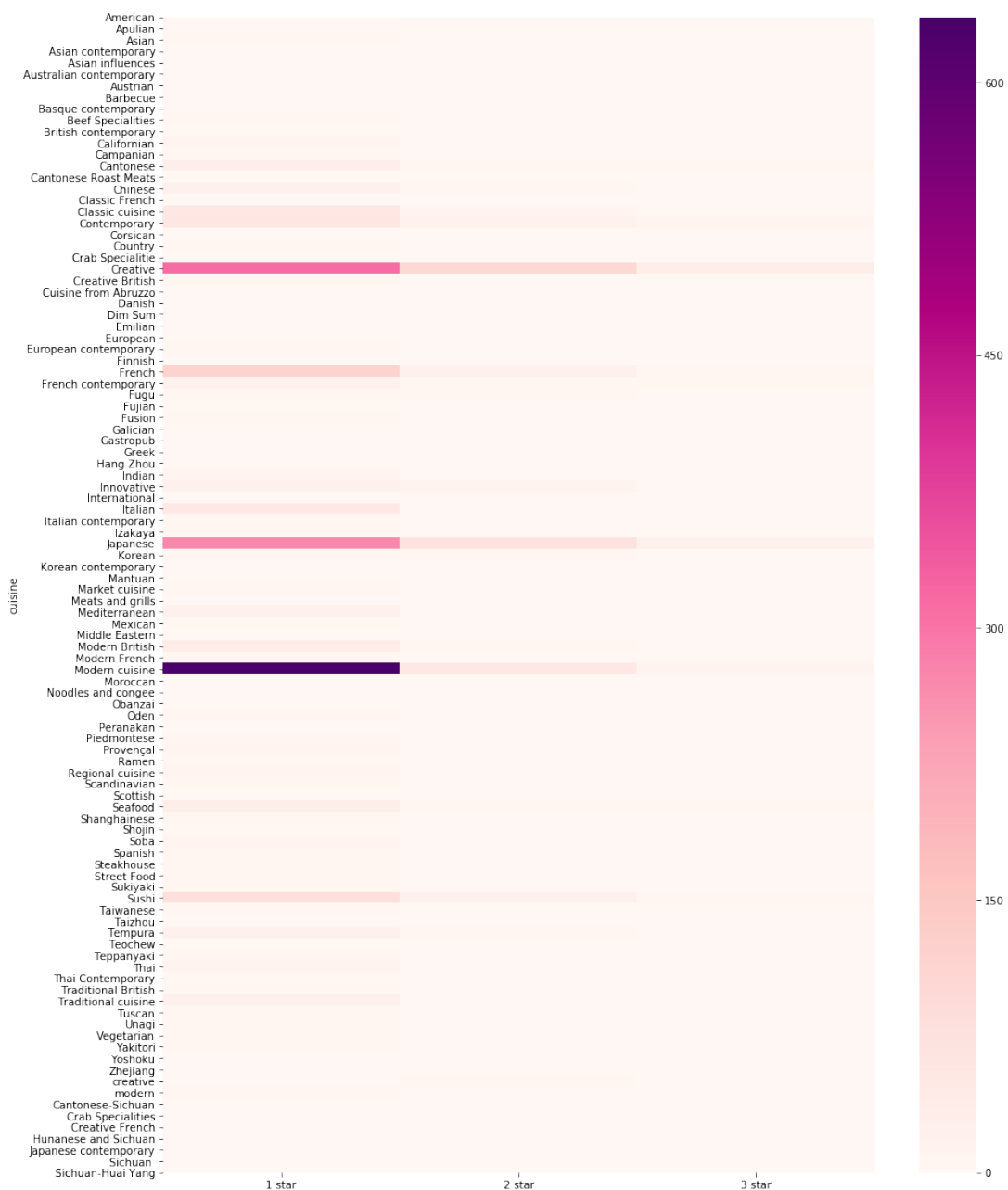
12	Japanese	21
13	Korean	2
14	Mediterranean	1
15	Modern French	1
16	Modern cuisine	15
17	Seafood	3
18	Sushi	6
19	unknown	17

The chart below visualises this information.

Three star restaurants by cuisine



The heat map shows further the correlation between cuisines and number of stars.

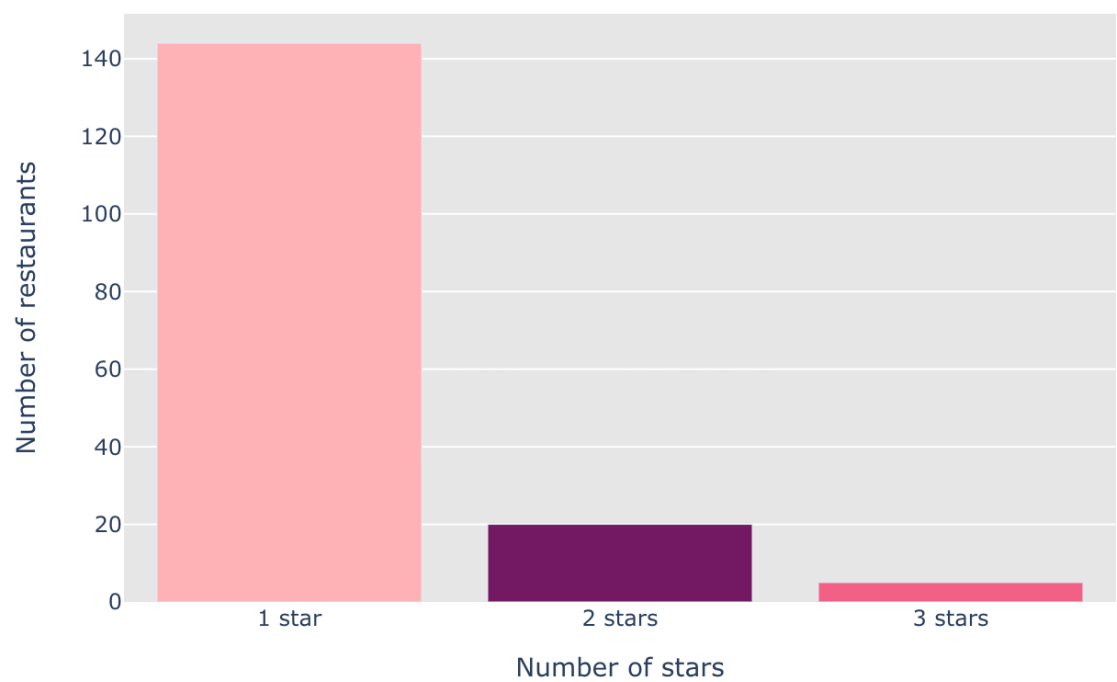


4.3 UNITED KINGDOM

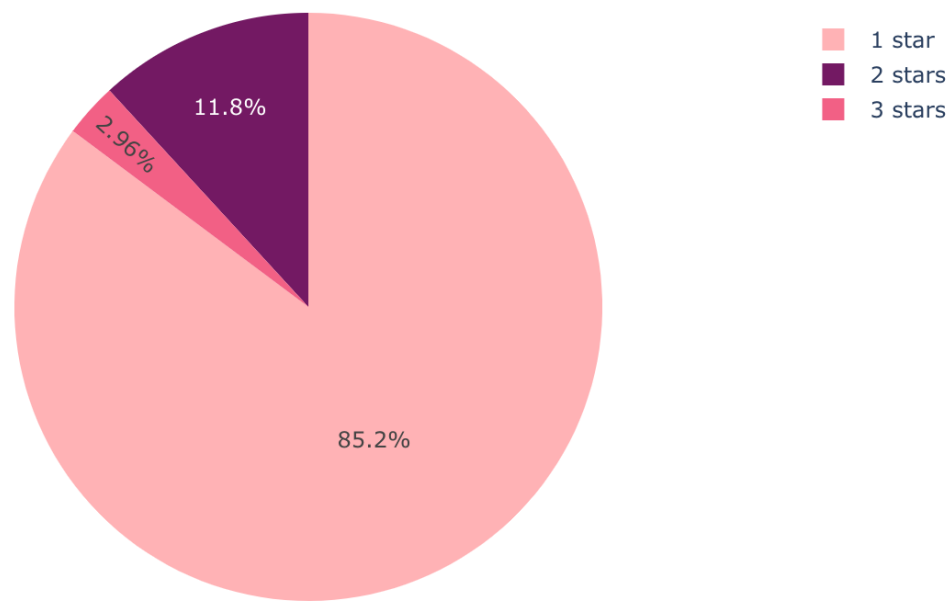
In the United Kingdom, there are 144 one star restaurants, 20 two star restaurants and 5 three star restaurants. The majority of Michelin rated restaurants in the UK have 1 star, with a small

percentage having 2 or 3 stars.

Number of restaurants with michelin stars in the United Kingdom

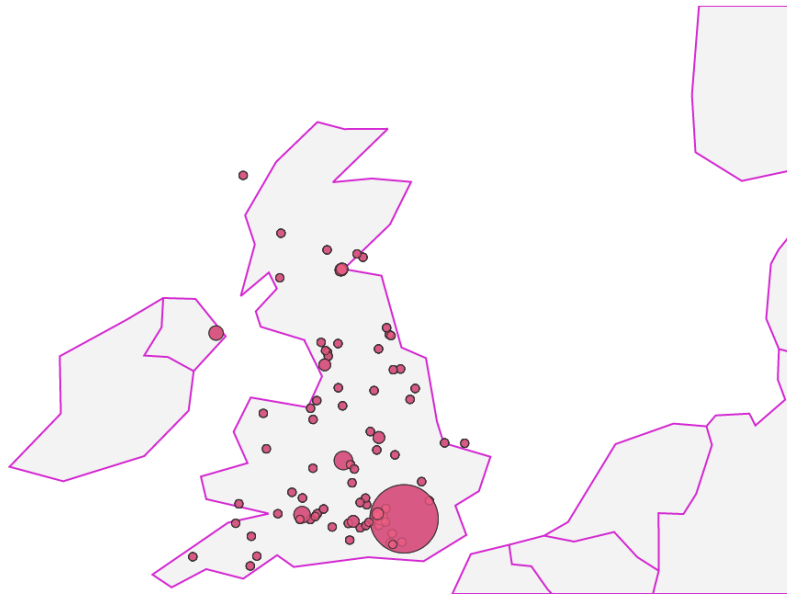


Proportion of 1,2 and 3 michelin stars across UK restaurants



Michelin starred restaurants in the UK are spread across 83 different cities:

UK michelin starred restaurants
(Hover for city names)



5. World's best 50 restaurants 2019

Now we will have a look at the data scraped from the world's 50 best restaurants list.

N.B. This list usually comes out in June each year for the current year. Whereas the Michelin list comes out in October of the previous year - ie. the 2020 list was announced in October 2019. For this reason, at the time of writing this report (Feb 2020), the 2020 Michelin guide's equivalent world's best 50 restaurant list is from 2019.

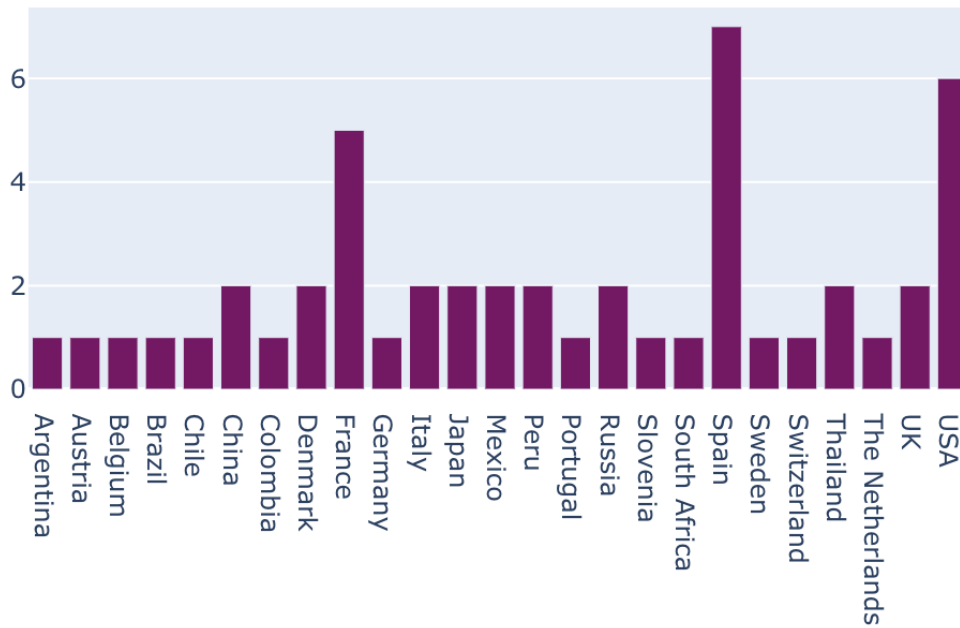
5.1 OVERVIEW

The restaurants in the 2019 top 50 list are spread across 25 countries. The 5 countries with the most restaurants listed in the guide are:

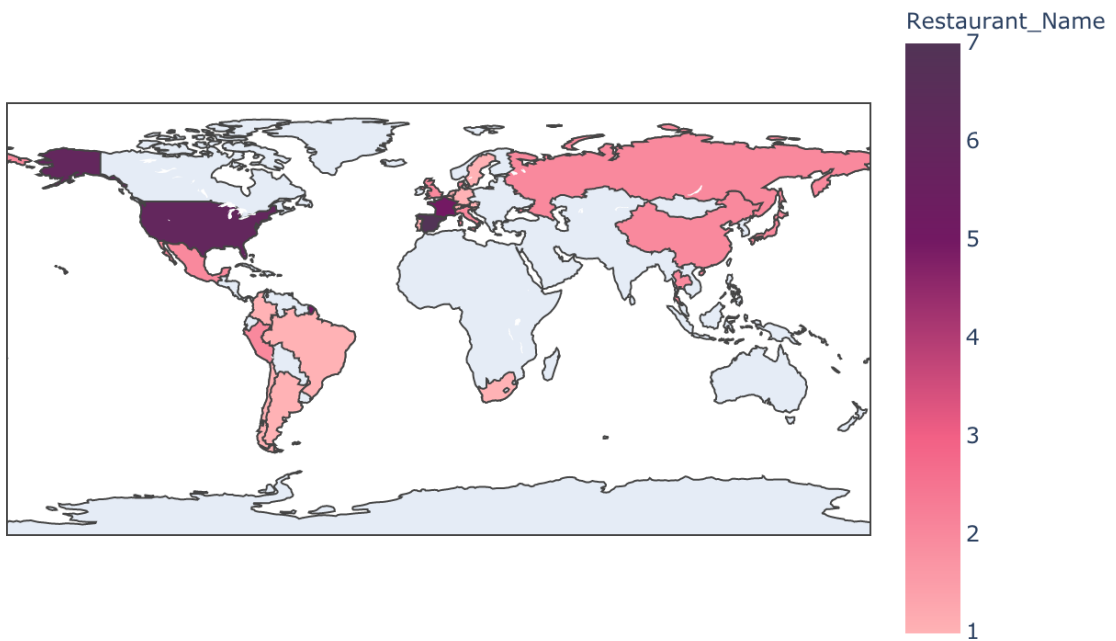
Country	
Spain	7
USA	6
France	5
China	2
Denmark	2

All 25 countries in the list are visualised in the chart below.

World's best restaurants 2019 - No. in list per country



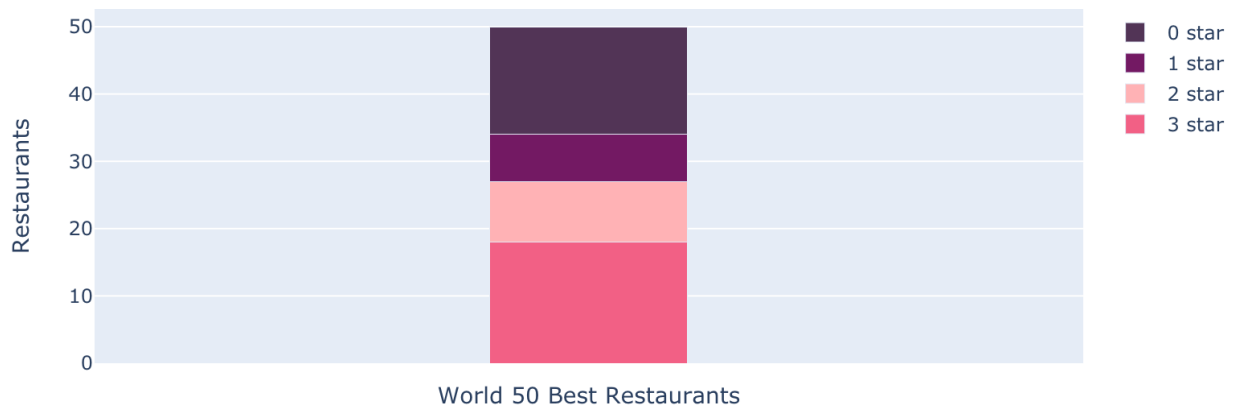
World top 50 restaurants 2019



Add charts for just world best - Michelin stars etc and edit text below

There are 18 three star restaurants, 9 two star, and 7 one star restaurants on the list. (add percentages)

No. of michelin starred restuarants in World 50 best



United Kingdom

2 UK based restaurants - of what star?

6. Comparison of both guides

We will now look at how the two guides either complement or contradict each other and what we can deduce from looking at them together.

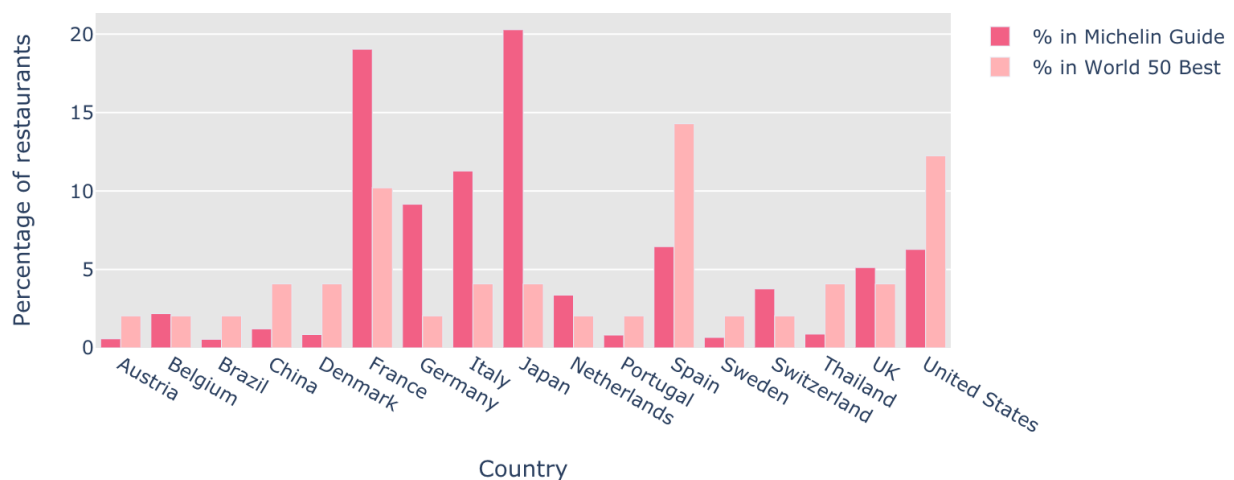
We would assume, that if a country had more restaurants with stars, that the country is more likely to be on the Top 50 list. However, delving into this further, we can see that is not necessarily the case.

Spain, which has the most restaurants in the top 50 (7 restaurants), accounts for 14% of all the restaurants on the World 50 best list. Going back to The Michelin Guide, Spain's share of restaurants with stars was 6.46%.

On the other hand, we know there are 2 UK based restaurants on the world 50 best list, equating to 4%, comparative to 5.12% in the Michelin Guide. This is more of a comparative proportion.

There are 16 countries which feature both in The Michelin Guide and The World's 50 best, and we can see from the chart below that for some of them, their presence in both guides differs greatly. For instance, Japan has the most restaurants featured in the Michelin Guide, however in the world 50 best, Japan comes joint 4th with 5 other countries, with the percentages extremely different (20.3% vs 4.1%).

Percentage of restaurants per country included in each guide

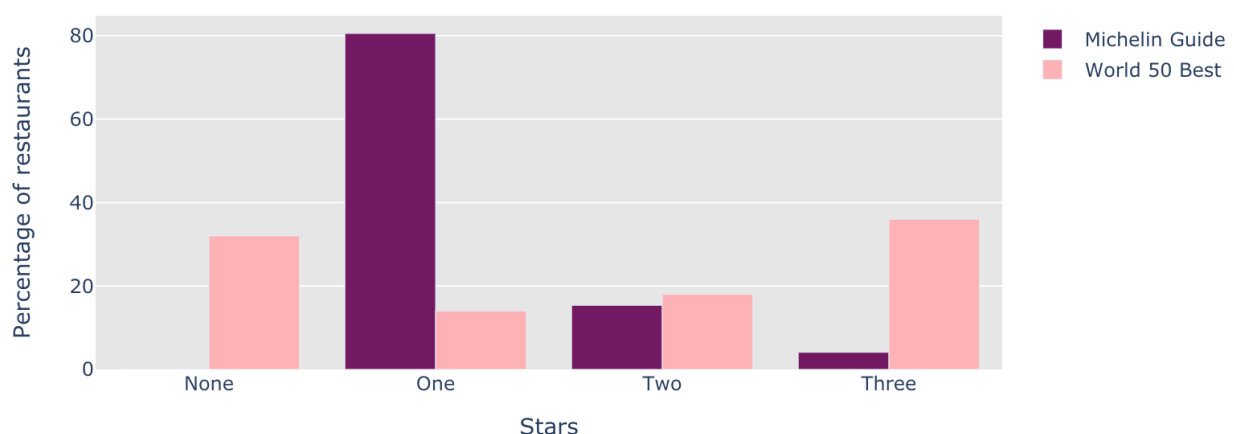


Why might that be? One of the main reasons may well be that The Michelin Guide does not yet cover the entire world, whereas the world's best, does indeed cover the world - or more of it, so there may be less scope for instance Japanese restaurants to take a bigger chunk of the top 50. Another reason, could be that The World 50 best may have a more Eurocentric approach - as it has been criticised to have so in the past. *Put reference here.*

MICHELIN STARRED RESTAURANTS

34 of the world's best 50 restaurants have one or more Michelin star, which leaves 16 restaurants classed as being the best in the world which do not have the award of one star or more.

Proportion of starred restaurants in each list



There are 18 three star restaurants, 9 two star, and 7 one star restaurants on the top 50 list. Three stars are defined by the Michelin Guide as the best of the best - of being worthy of a special trip, so would assume that all the restaurants on this list, which reside in countries where the Michelin guide exists, would be three star restaurants, which we can see is not the case. It does follow our instinct however that proportionally, to how many three star restaurants there are worldwide, the

proportion on this top 50 list is higher than in the michelin guide itself (36% three star, 18% two star, 14% one star, 32% no star)- hence reinforcing this accolade as a mark of a great restaurant

Statistical test to determine if there is a correlation.

Do histograms, skews etc as learnt from the data science projects

Conclusions in each section about main learnings - eg cuisines, what are best? What are best cuisines in England? Does South have different cuisines than north?

Are Dif cuisines in Dif countries? - does this impact who gets michelin stars?

7. Final thoughts

It will be interesting to see how this comparison changes, as the Michelin Guide evolves into new territories and opens up its doors to more of the world.

For now, foodies and those looking for gastronomic experiences, will probably continue to look at both these guides side by side to plan which restaurant will be next on their bucket list.