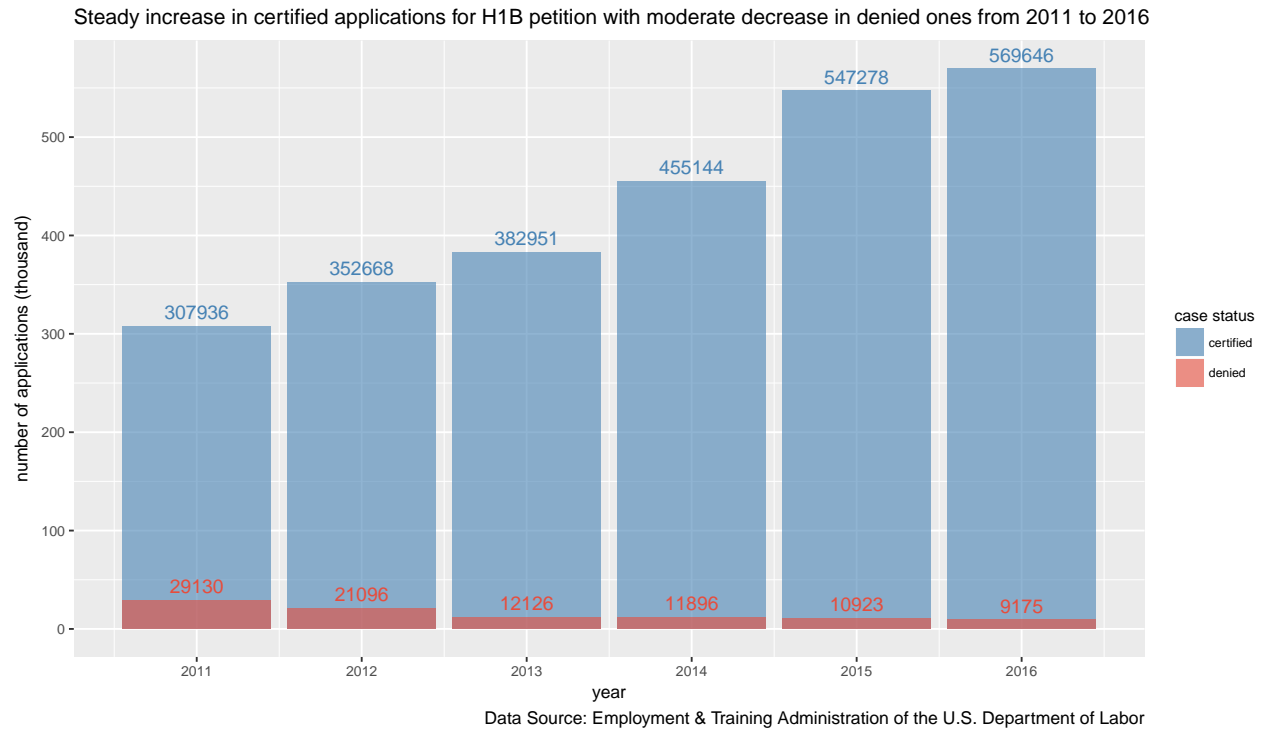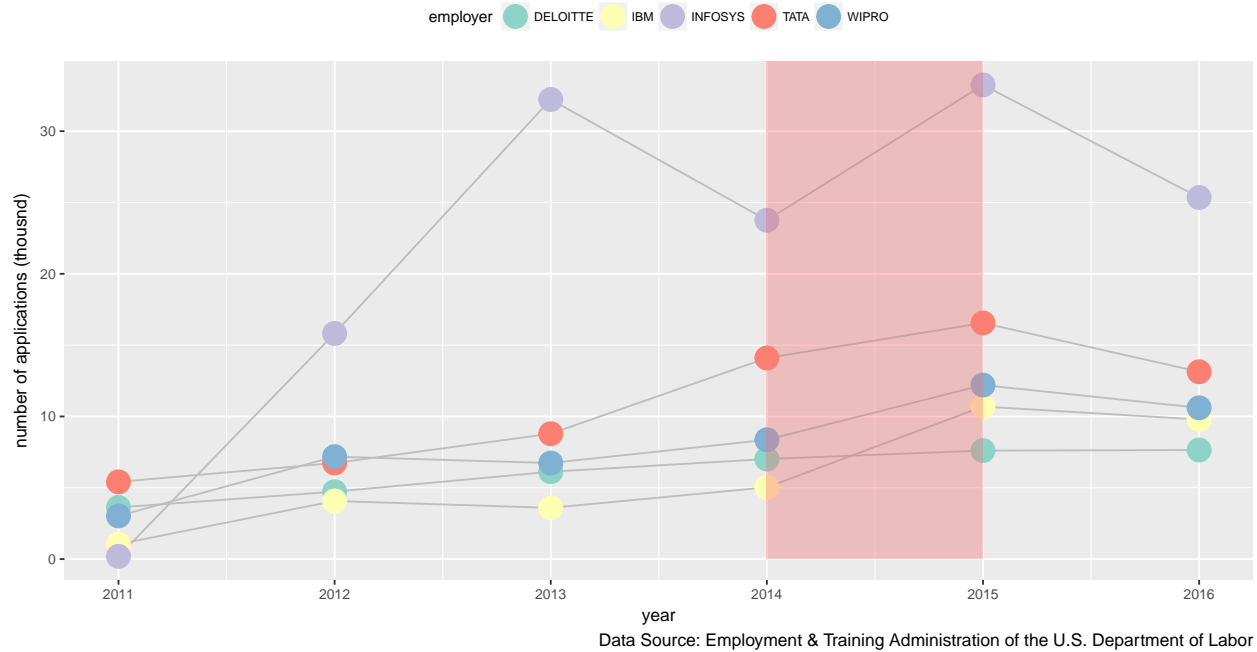# Short Paper

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To petition the U.S. Citizenship and Immigration Services (CIS) for a H1B visa, employers must first obtain labor certification through the U.S. Department of Labor (DOL). The graph below shows trends of number of certified and denied applications for H1B visa petition from year 2011 to 2016. We can see a clear and steady rise in the number of certified applications for H1B petitions accompanied by a moderate decrease in the number of denied ones, which signifies an increasing supply of foreign works who are willing to temporially work in the United States. A closer examination may lead us to the largest increase in certified H1B petitions from year 2014 to 2015, a jump from 455144 to 547278, which could be related to the highest GDP growth rate from 2014 to 2015 in this period.

Steady increase in certified applications for H1B petition with moderate decrease in denied ones from 2011 to 2016

Data Source: Employment & Training Administration of the U.S. Department of Labor
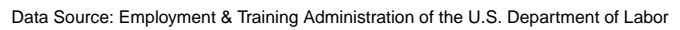
Next, we take a look at who are the largest employers of H1B workers. We can see from the graph that the top 5 are Infosys, Tata, Wipro, IBM and Deloitte, all providing IT services and technology consulting as their main business, and the biggest three among them, Infosys, Tata and Wipro, all have Indian origin and headquartered in India with a great deal of outsourcing services. So we may infer that Indian workers must have been a large ethnic group among all H1B applicants these years. We can also observe a universal increase of all 5 companies in number of applications from year 2014 to 2015, which matches the sharp rise shown on the first graph well.

A universal H1B application increase from 2014 to 2015 among all five largest H1B employers
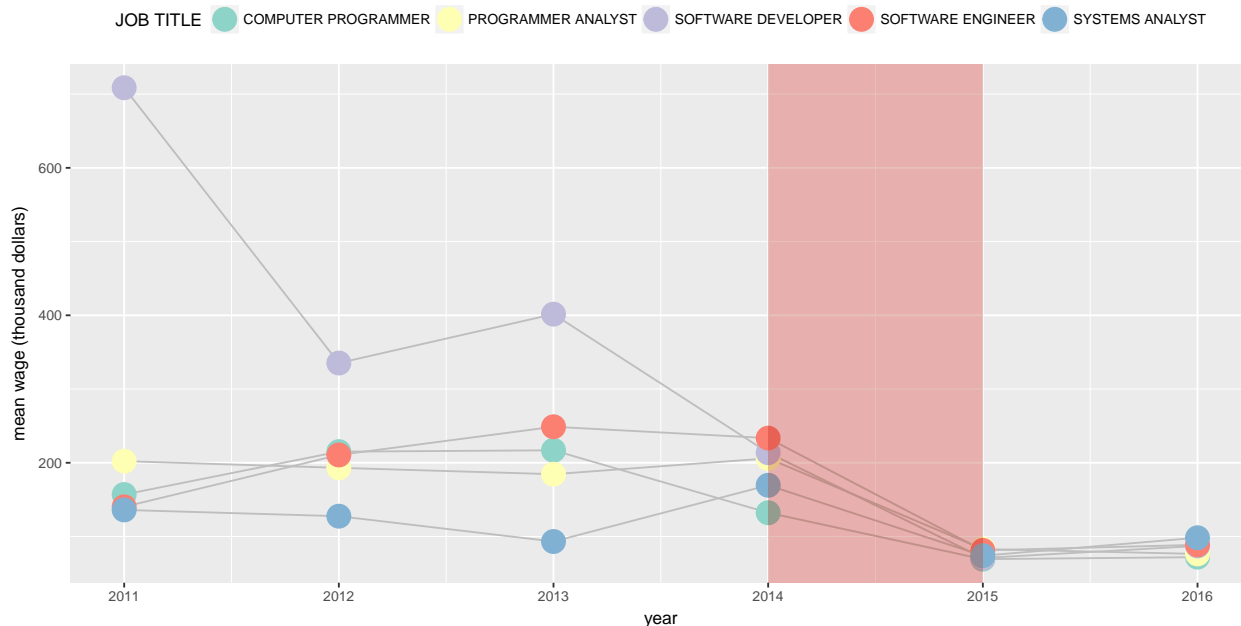

Data Source: Employment & Training Administration of the U.S. Department of Labor

We are also curious about the worksite distribution of all applications for H1B visa petitions among different states in the US. However, the total number of applications whose worksites are located within a state is a so-called "spatial extensive" measurement, which needs to be converted to its number per capita counterpart using the state population. The resulting map below shows that New Jersy, Massachusetts, New York, Califonia and Washington are top five states with high density of H1B workers.

New Jersy, Massachusetts, New York, California and Washington are top five states with high density of H1B workers (2011–2016)

Data Source: Employment & Training Administration of the U.S. Department of Labor
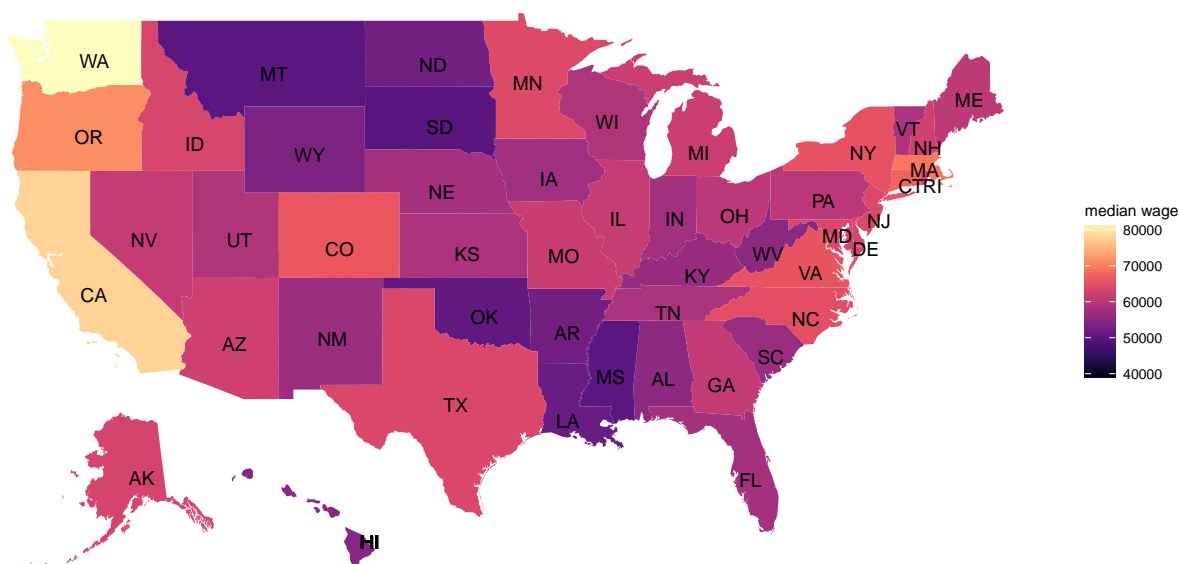
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Now we turn to wage levels of H1B jobs over years. As the graph below shows, the overall wage level went down from year 2011 to 2016 as represented by those of the 5 most in-demand jobs, and the sharpest decline happened to software developers, although the extremely high wage level for them in 2011 could be an outlier. Besides, a univeral decrease can be observed from year 2014 to 2015 with wage levels of all 5 types of jobs dropping below $100,000, which may find its counterpart of the increase in number of applications on the first and the second graph. Dose it mean that the higher number of labor supply has pushed down the wage levels? More evidence is needed.

A universal prevailing wage decrease from 2014 to 2015 over all five most in−demand jobs for H1B visa applicants

Data Source: Employment & Training Administration of the U.S. Department of Labor

West coast employers offered higher prevailing wages for H1B visa applicants (2011−2016)

Data Source: Employment & Training Administration of the U.S. Department of Labor