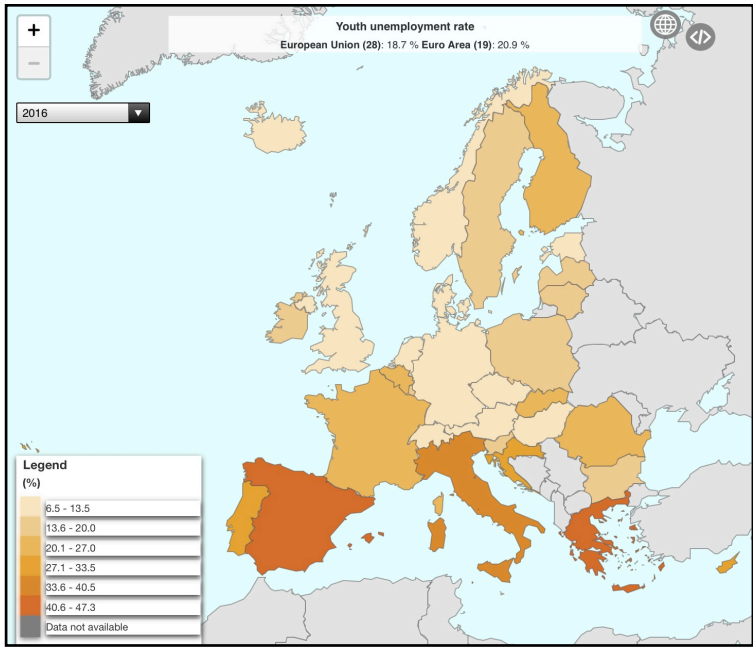
Youth employment and innovation

~ Introduction and R&D's correlations with youth employment

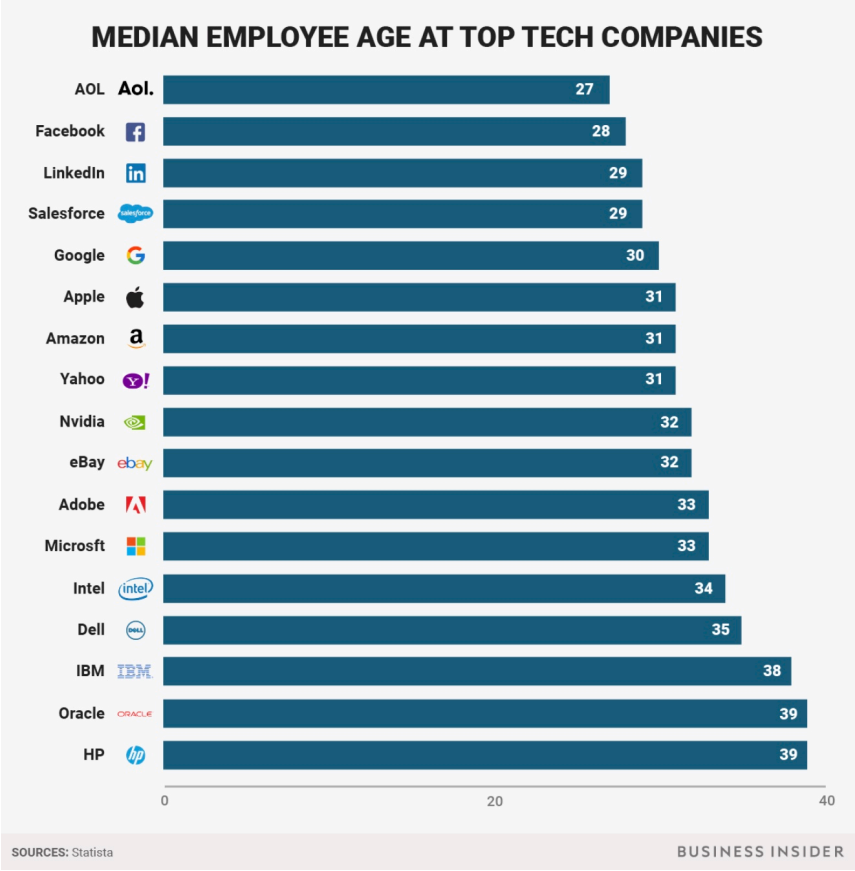
First of all, we have to debunk the myth according to which the innovation and the technological progress generate unemployment. According to a data series from Eurostat and Bureau of Labor Statistics, we can observe that the annual unemployment rates of the last 20 years in the US and in the EU fluctuate depending to economic cycle; for example after the 2009's recession the unemployment rates raised, respectively in the US and in the EU, from 5.8 % to 9.3 % and from 7.0 % to 9.0 %. But in 21st century there was the disruptive innovation of the Information and Communication Technology, and the credit crisis was triggered by subprimes mortgages and not from the unemployment generate by computers. So this data means that the new technologies have not a negative influence in the work force. In particular, the youth employment in general is positively correlated to innovation: watching this map we can note the EU countries related to their youth



unemployment rates[1]. Countries with a very low rates are for example Germany, Norway, Denmark and England, while the worst rates are in Italy, Spain and Greece. But how this could be related to innovation? First of all, a good index could be the Research and Development expenditure as % of Gross Domestic Product: in the EU the average rate is growth during the last years and in 2016 was about 2 %. According to Eurostat data, above average R&D expenditures were incurred right from the

1 source: Eurostat

countries that have a low youth unemployment rate. Conversely, the countries with an high youth unemployment rates have ones of the lowest expenditures in innovation. These data are not only true for the European Union but even for other countries: Japan for example, with the 4.60%, have one of the lowest rate in the world[2] and at the same time one of the highest R&D expenditures; according to World Economic Forum the South Korea is the most innovative country in the entire world and the youth employment is one of the highest too. This can't be only a coincidence. The same correlation can be identified in the country that "host" ones of the most important corporations in the world: the USA. In fact they are in the "world top 10" for young employment and for innovation expenses too; but we can be more specific than this. According to Business Insider chart below, it's easy to observe that the median employee age at top tech companies is very low: for example the median age in



Facebook is about 28, or 30 and 31 respectively in Google and Apple. To support this, another survey[3] point out that the average developer's age is 28 years old, according to the observation that in the most innovative industries there are younger employees. In fact this is heavily correlated to the R&D's

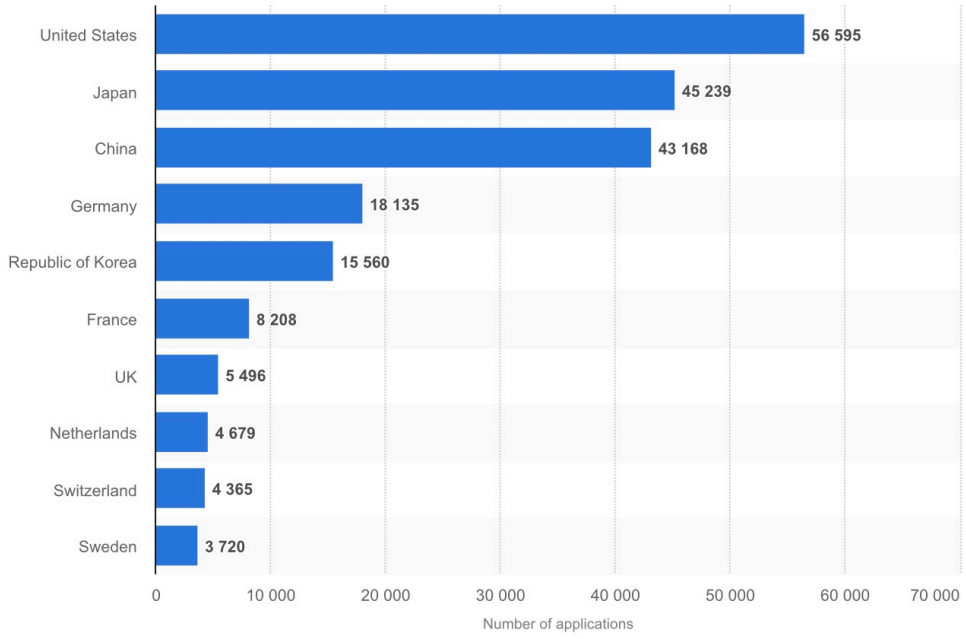
2 source: Trading Economics

3 source: Business Insider

expenditure and so with the capability of innovate; furthermore considering that according to Statista's data, lots of the same corporations above have ones of the highest innovation's costs in the world in absolute value.

~ Number of patents and venture capital investments

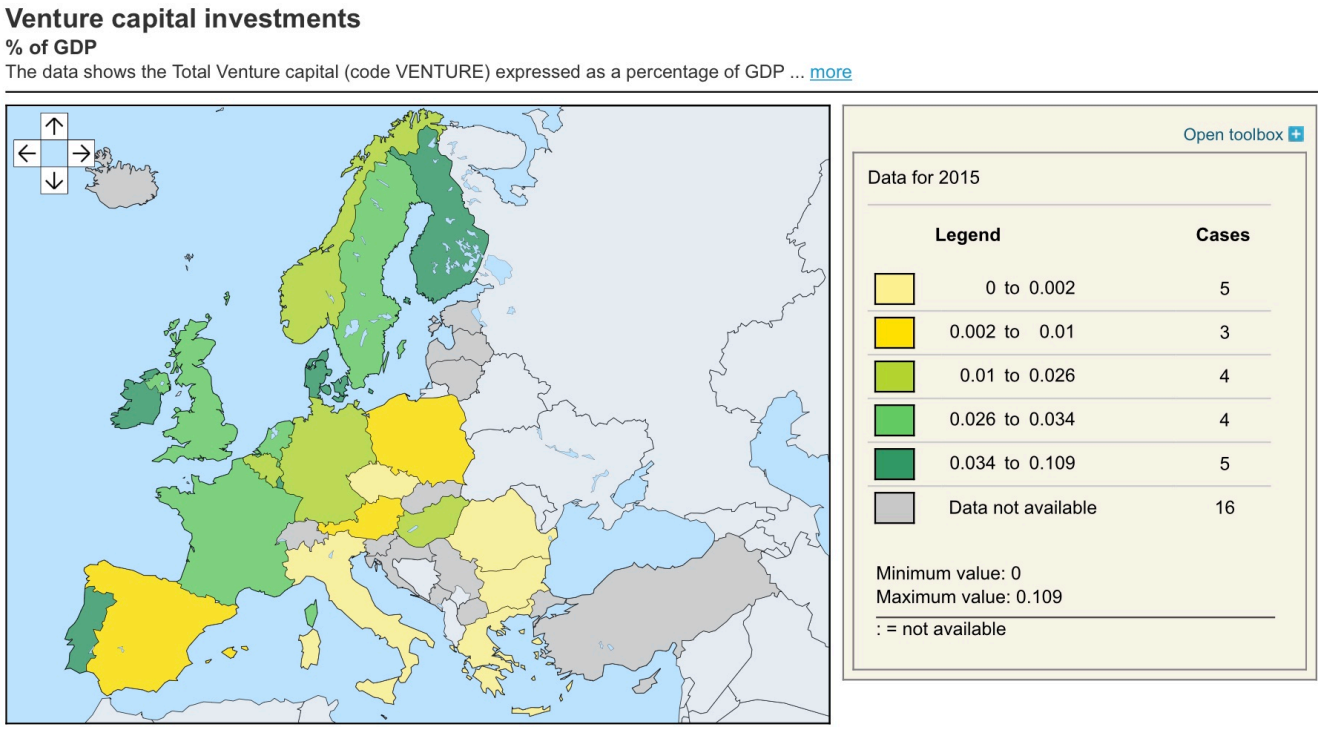
We can consider that innovation is truly related to other types of possible indicators; for example one of these could be the number of patents that have been registered in a country or even the venture capital's investments in % of Gross Domestic Product. First of all, it's easy to understand why the number of patents could be related to innovation: in fact the major part of the new inventions are normally registered to prevent them to being copied from other corporates or persons. According to Statista's chart below, we can immediately observe that the countries with the highest number of



international patents, like Germany, US, Sweden or Japan, coincide exactly with those that have the lowest youth unemployment rates in relation to the previous conclusions; so we can consider not only that the R&D expenditures were a good decision to have an high number of patents, but even to reach the aim of a better youth employment. The other useful index are the venture capital's investments; in fact this type of investments are normally directed to knowledge intensive's Start up or high tech's industries to have a capital gain from the acquisition and the resell of their shares. To demonstrate the importance of these investments for innovation we can refer to european's data[4], according to which in

4 source: Dealroom.or

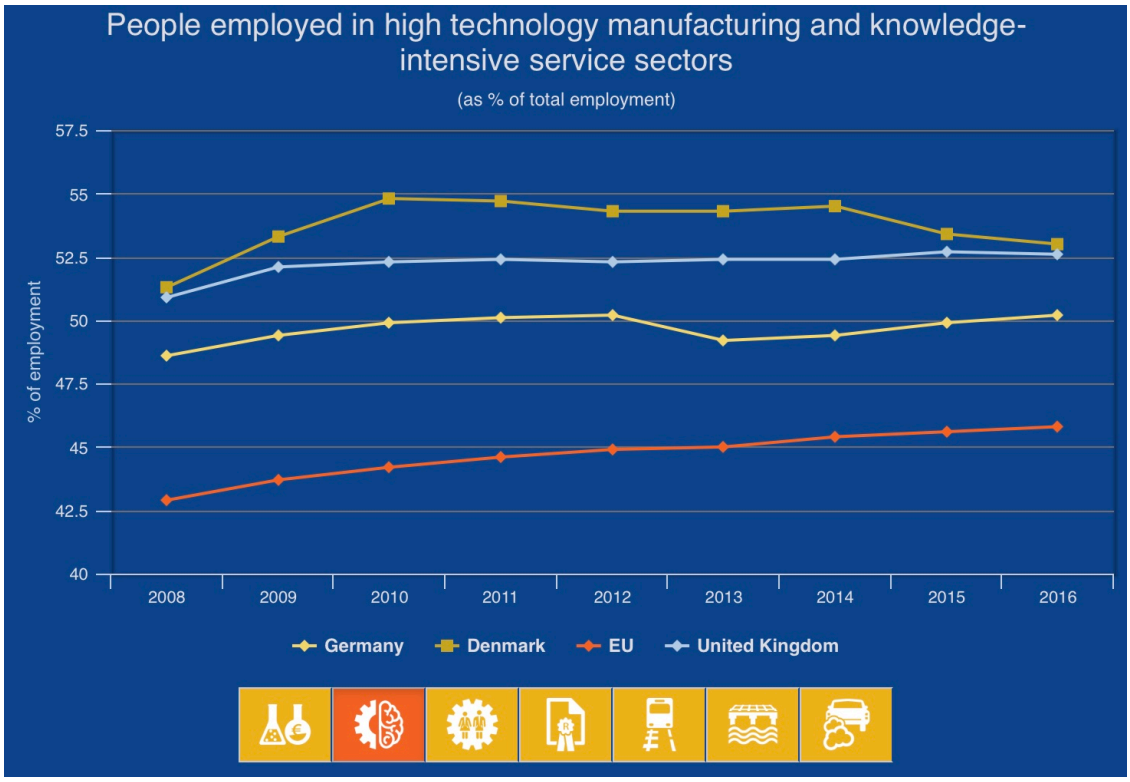
2017 the top 3 industries that received the most substantial capitals were the software's enterprises, the fintech and the healthcare: in fact they earned cumulatively about 9 billions dollars in 1700 rounds of investments. Now we have to compare these data with youth unemployment, and to do this it's necessary to look at the map below[5]:



here we can observe the investments by country in % of Gross Domestic Product. The "green areas" represent the highest levels and the "yellow areas" the lowest: if we compare this map with the one above (in orange scale), we can immediately deduce that higher venture capital's investment can be a development's key source for youth employment. Following this vision we can understand the importance of investments in start up but also of entrepreneurship; in fact the entrepreneurs, founding a new enterprise, are very important to adopt and implement the new technologies in the most innovatives industries. Despite the high mortality's rate of the innovatives start up in their early stage, due probably to the unsustainables operatings costs and other factors, those that manage to survive are the "engine" of the innovation in the economic system. For example, youth employment's very important enterprises that we have spoken above yet, like Facebook, Amazon or Microsoft have changed the world. Thanks to social networks, we can keep in touch with those that we consider important or interesting even if they are in the other side of the planet and if i own a business i can advertise my product or service to everyone in the world (depending obviously on the marketing's

5 source: Eurostat

budget); Amazon is realizing revenues for billions of dollars every year and is taking away market shares to Walmart, and we could mention other examples yet. Certainly there are nations that have right understood the innovation's contribution for the economic development and so for employment in general (especially the youth employment); we can observe that for example from the chart below[6] :



this is a representation of the percentage of people that are employed in manufacturing and knowledge-intensive sectors, related to the European's average. How we can see, Germany, Denmark and United Kingdom, with respectively the 50 %, the 52.7 % and the 52.5 %, are a perfect example of those countries mentioned previously; but with them we can recall South Korea, Japan or United States too. Probably, ceteris paribus, thanks to innovation they will be ones of the Nations that keep rising in a world which is increasingly globalised and more competitive. In this scenario, Italy seems to be very far behind mostly becose of political factors, but I'm very confident that the new entrepreneurial and working generation will change this condition even with a more favourable economic conjuncture.

6 source: Eurostat

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