Is California Worth the Risk?

California is a long, rectangular state in the south west of the USA, bordered by the Pacific Ocean to the west and Oregon to the north. Whilst it offers its citizens much wealth and prosperity, they live in fear of a constant threat. I am going to form a cost-benefit analysis of California, to determine whether California is truly worth the risk.

California is under constant earthquake risk, it is situated in an area of high tectonic activity where the Pacific Plate subducts beneath the North American Plate. It’s also situated along the San Andreas Fault. This fault moves with a strike-slip motion and prior to 1989 had been aseismic for 20 years. This aseismicity meant that an earthquake was expected, especially given the research funding available in an MEDC, but yet remained entirely unpredictable. San Francisco was already built upon the rubble of an earthquake which hit in 1906, but as tension was released in the fault, the Loma Prieta earthquake hit. It was the worst to hit since 1906 with a magnitude of 7.1. It was a shallow focus event, of depth 18km, hence causing more damage than if it were a deep focus event. 62 lives were lost.

Awareness of the hazard is probably greater in California than anywhere else in the world, with earthquake drills taking place in schools and businesses, USGS information sheets being made publically available and with people ready to store food and water for 3 days in such an event. After the 1906 earthquake, buildings were strengthened with earthquake-resistant design. Houses were bolted to the ground, things were secured firmly to walls, gas lines were automatically cut off to prevent fires. The emergency services were also readied, with fire station doors opening automatically. FEMA, an agency designed to mitigate impacts of events such as this is also prepared for events such as this. Furthermore, being an MEDC, federal aid from the Government is available. Hazard maps for planners and prospective house buyers are also available, taking in to account the geographical imbalance where some areas are more prone to liquefaction, due to loose, sandy soils; effectively amplifying the earthquake.

But are these attempted managements and mitigations of the risk enough to make California worth the risk? 41 of the 62 deaths were caused by the failure of the Cypress Street viaduct in Oakland as the upper road crushed the lower during collapse. This proves the fact that California cannot truly be deemed a state that is fully aseismically designed. Other deaths were blamed to other further simple design flaws. But can it be expected of a poor migrant looking for prosperity to be able to afford a house built aseismically? The low income housing is affordable and would cost a lot to replace. Even if they are built aseismically, what is to say that it’s up to the job? In 1995, Kobé, Japan, was hit by a similar earthquake of 7.2, but moreover, they had similar management systems in place and 2,000 people died. However, it’s notable that this figure is massively overblown if we’re to compare this to California due to the high population density of Japan. Furthermore, even though the state is wealthy, the high prevalence of earthquakes means that the majority of people are not covered by insurance for earthquake damage. It’s mainly the commercial and industrial sectors which are insured.

Furthermore, questions have to be raised as if the monitoring strategies are up to the job. California has 250 GPS units situated around California to pinpoint ground movements. These are all linked by SCIGN (Southern California Integrated GPS Network) so earthquakes can be clearly monitored. But an earthquake can never truly be pinpointed as to when it will next take place. For instance, they have predicted that there is a 70% probability of a 6.7 Richter earthquake taking place in the San Francisco Bay region before 2030 due to the inactivity of the Hayward Fault. Should this be a risk people are willing to take when many schools and hospitals are built along the fault? It could cause buildings to collapse and potentially cause massive casualties. Who is also to say that the “eye won’t be off the ball”, such as it was with Hurricane Katrina, when the focus was on terrorists and they weren’t prepared for the massive impact of the event?

On the other hand, there are many perceived benefits of living in California. Most believe it offers them a better quality of life. The warmer Mediterranean climate alone is attractive to voluntary migrants, with the sunny climate appearing as an idyllic life to most. Economic migrants on the other hand migrate here for the wealth and prosperity. If California were a country, it would rank among the ten largest economies in the world. This wealth was brought about by the California Gold Rush of 1848. This gold was brought about by the very system which would cause such devastation in the area. As the Pacific Plate subducts beneath the North American Plate, it carries the minerals (including gold) produced by prehistoric underwater volcanoes below eastward. Here they and the seafloor turned to magma, which, due to gold being lighter than the above continental crust, rose to the surface where it became concentrated. But this wasn’t the only thing of worth to emerge. Oil similarly rose through the San Andreas Fault. Prosperity isn’t just from the primary sector however. California has a massive quaternary sector, with many of the world’s TNCs, such as Hewlett Packard and Apple locating here in Silicon Valley.

Economically, there is no doubt that California is worth the risk. Risk Management Solutions (RMS) estimates a magnitude 6.8 earthquake at the Hayward Fault would result in an economic loss of $112 to $122 billion, but only $11 to $13 billion would be insured, yet the recurrence of earthquakes is low enough to make it viable to make an average net profit, even whilst outlaying for earthquake damage. But maybe for some of the poorer residents, this isn’t so. They build up from nothing to be returned to poverty by an earthquake they are not insured against. California also contributes 14% to the GDP of the US and given the current economic climate could force the US back into recession. Furthermore, the “economically worthwhile” label which I placed upon California fails to add one key asset which may be lost in to the equation. Human life. Whilst economic losses may be tolerable and even accountable for, is it wise to risk something invaluable when there are doubts on management systems? Probably not. However, I feel my final conclusion is formed from the fact that the positives outweigh the negatives, for in other parts of the world you may be struck by lightning, slip on ice, caught in a tornado, or die from not leading the healthy Californian lifestyle. Only 62 people out of 800,000 died, and further advancements mitigate the risk. Life comes hand in hand with risk and this risk does not outweigh any other, and so, in my opinion, California is worth the risk.