



# Nuclear Weapons and Their Impact on The United States and The Soviet Union During The Nuclear Arms Race

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## What were the effects of the Nuclear Arms Race on the United States and the Soviet Union?

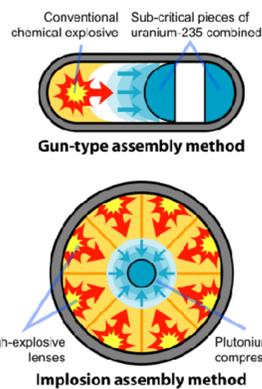
While the Nuclear Arms race remained predominantly cold, the event itself shows the negative repercussions that weapon technology indirectly had on both the United States and the Soviet Union from a economic, political and societal standpoint.

### Brief Overview

The Nuclear Arms Race is an example of technological advancement fueled solely on fear. As the different ideologies of the US and the Soviet Union clashed, tensions naturally began to rise. During World War Two, the United States' original plan was to develop a nuclear bomb before Germany, however, their first detonation, labeled the Trinity test, ended up occurring two months after the Nazi's surrendered. Following the bombing of Hiroshima and Nagasaki and consequently the end of World War Two, the United States refused to disclaim their findings in nuclear weapons, the Soviets received such information from Klaus Fuchs, a physicist who had worked on the Manhattan Project. With such knowledge, the Soviets were able to create their first nuclear weapon, name Joe 1, and the race officially began as both countries would go on to invest much of their resources into building their arsenal of nuclear warheads.

## Origins Of Nuclear Weapons and How They Work

When we think of nuclear weapons, words like destructive or deadly may come to mind. This is not without reason as nuclear warheads are powerful weapons that have catastrophic repercussions. The question then is what allows nuclear weapons to release immense amounts of energy? The credit can be given to nuclear fission, the process by which a neutron splits the nucleus of an isotope releasing tremendous amounts of energy. Although it was German physicists who discovered process, it was the Americans who were the first to create the atomic bomb which became known as the Manhattan Project. Two bombs were created, "Little Boy" which was given a Uranium-235 core, and "Fat Man" which was given a Plutonium-239 core. Uranium and Plutonium were chosen because they readily undergo fission. This was important in ensuring that the fission was self sustaining meaning that when a nucleus was split that the neutrons from that nuclei would continue the fission by splitting other nucleuses. On August 6th 1949, "Little Boy" was dropped onto the Japanese town of Hiroshima while three days later "Fat Man" was dropped on Nagasaki both contributed to a Japanese surrender and an end to the Second World War.



## Post World War Regulations on Nuclear Weapons

Following the end of World War 2, the United Nations attempted to disarm all means of nuclear warfare to prevent further catastrophes. In 1946 the United Nations Atomic Energy Commission was established. In June of that year, the United States Government released the Baruch Plan (named after Bernard Baruch) which argued for the elimination of nuclear weapons and to implement nuclear technology solely for peaceful means. However, the Soviet Union argued that because the UN was dominated by the United States and its allies, that proper regulation could not be ensured. They rejected the the plan outright and any effort for control over nuclear weapons disintegrated. In August 1949, the Soviet Union denoted their first atomic bomb nicknamed "Joe 1," officially commencing the nuclear arms race between the two nations.

## The 1950s to The Cuban Missile Crisis

In 1952 the United States detonated the world's first hydrogen bomb code-named "Mike," which operated using nuclear fusion, a process by which deuterium and tritium are forced together at immense speeds. In 1957 the Soviets launched the satellite Sputnik 1 into space using a intercontinental ballistic missile. This greatly worried the US who feared that they could use such missiles to attack without sufficient warning time.

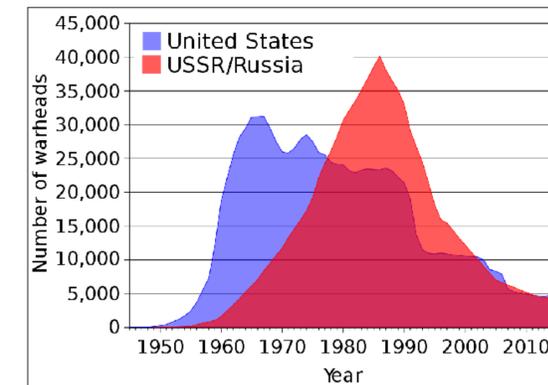


The 1960s saw further deterioration between the two great powers. On October 30th 1961, the Soviets detonated the most powerful nuclear weapon ever created, a 58 megaton hydrogen bomb labeled the Tsar Bomba. Ever-growing fear consumed the American Public. October 14 ,1962 brought even more panic when the US discovered Soviet nuclear missile sites pointing in the direction of the US mainland from Cuba. For a week thereafter, President John F. Kennedy and Communist leader Nikita Khrushchev negotiated the removal of the missiles. The two nations agreed to work to resolve the arms race and that November the first Strategic Arms Limitation Talk (SALT 1) was held in Finland.

## Nuclear Détente

In 1972 the US and the Soviet Union agreed on the Anti-Ballistic Missile Treaty which limited the number of ABMs the two nations could have. Given that they were defensive systems it discouraged the two nations from attacking each other. However, the ABM treaty never addressed multiple Independently targetable reentry vehicles (MIRVs). Tensions would again rise, however, the Second SALT meeting would ease relations with the recognition of MIRVs and a limit to the amount of weapons a country could have.

## How Did The Nuclear Arms Race Affect The Soviet Union?



The primary effect that the Nuclear Arms Race had on the Soviet Union was financial instability. This was evident when Nikita Khrushchev chose to place short range missiles in Cuba rather than long range missiles in the USSR. Building thousands of warheads crippled the Soviet economy. It could be argued that this may have contributed to the fall of the Soviet Union in 1991, when many political states within the Soviet Union began to question the super power's stability.

## How Did The Nuclear Arms Race Affect The United States?



Although they were also struck with the costly fees for funding their nuclear weapons program, the US economy remained relatively stable unlike its Soviet counterpart. In this way the nuclear arms race affected the United States from both a political and societal standpoint. The US government imposed great stress on the American people, in the early 1960s, citizens were encouraged to buy or build a nuclear bomb shelter in case of a Soviet attack. Politically, Joseph McCarthy, a US senator, triggered widespread paranoia when he accused multiple government officials of being Soviet spies; this became known as the Second Red Scare, and the practice of accusing others of being a communist spies was coined "McCarthyism." All in all, the Nuclear Arms Race stimulated the utmost mistrust of the American people in their Soviet counterparts.