Around 6 to 10 million people died from famine in the Soviet Union during 1932-33, and 22 to 45 million died from famine in China during 1959-61. In terms of total deaths, these are the most devastating famines in the history of human civilization. Jasper Becker and Robert Conquest give illuminating accounts on these episodes. Recent books have provided additional and often very controversial explanations of the causes of these famines, ranging from bad luck to genocidal (e.g., Applebaum 2017; Davies and Wheatcroft 2003; Dikotter, 2010; Graziosi 2020; Kondrashin 2018; Snyder 2014).

Most of the evidence rely on narratives and descriptive evidence. Without systematic and disaggregated data, one could not distinguish between competing hypotheses. To address this lapse in knowledge, my co-authors and I have spent the past 15 years piecing together archival data and combining it with recently available geospatial data for the U.S.S.R. and China to understand the root causes of the Soviet and Chinese famines.

It is not a coincidence that they occurred in centrally planned economies governed by autocratic regimes.

The U.S.S.R. and China were very similar when it came to how the government addressed food, with the Chinese basing their political and economic design on that of the Soviets. Grain production was central to the two economies. Agriculture constituted approximately half of Soviet GDP and more than two-thirds of Chinese GDP in the years preceding the famine. Most of agriculture was grain. And grain was the main export for both countries.

In market economies, peasants produce grain and sell their surplus to those who need grain, such as factory workers. Traders can also buy the grain to export to other countries. The government imposes taxes on the sales, income, and/or exports for revenues.

Early Soviet and Chinese communists were ideologically committed to a planned economy, where there were no markets. Instead, the government procured the surplus grain from peasants and distributed it other workers and for export, the profit from which the government kept. Agricultural collectivization was the main policy for achieving this. The procurement grain is the tax in this economy. The ambitious governments of these two countries aimed to have a 100% tax, where all surplus is procured, but peasants are left with ample food to subsist (and stay productive).

Planned and market economies have very different implications on the incentives of the farmer. In a market economy, farmers are paid for their effort, so they are incentivized to exert effort to produce more food. In a planned economy, farmers always get their subsistence level and no more. So, they are incentivized to produce up to what they need to subsist and no more.
Producing no surplus would leave the government with no tax revenues, or debt if factory workers who need to be fed are taken into account. To incentivize farmers, the central planners introduced production quotas. These set the amount of grain each region need to produce. The difference between the quota and subsistence need is the government tax (procurement). This provides a very strong incentive to farmers because if they do not meet the quota, they will be left with too little food for subsistence and starve.

The main merit of the centrally planned economy from the perspective of the peasants is that it provides perfect insurance. In fact, the Chinese communists came to power on a slogan of “no more famines” and their core support came from rural populations, exhausted from the seemingly endless famines of the previous century.

The planned economy depends critically on setting the correct quotas. If the quota is too high, then too much will be taken away and there will be famine. If the quota is too low, then the government is not maximizing revenues.

In the early years of the Soviet and Chinese regimes, agricultural productivity far below their production capacity (the maximum production given natural conditions and labor) because of the decades of political unrest and conflict. To incentivize peasants to produce more, the new central planners simply increased quotas each year. The idea was to do this until farmers hit their production capacity.

The central planner trades off government revenues against famine risk. In increasing quotas, the government increases its expected revenues, but also increases the risk that it will over procure. The risk increases over time as production increases and approaches the capacity constraint.

For reasons that economists and agricultural scientists still don’t entirely understand, aggregate production experienced moderate declines right before the two famines began.

The government did not reduce their procurement quotas and too much grain was procured from the countryside. Millions upon millions, upon millions, starved to death. The overly ambitious tax rate left no room for mistakes because peasants had no savings to buffer against shocks because all surplus had been taken away. The regimes knowingly risked the lives of the people.

The commonalities in the two famines end at this point of the chronology.

The top leadership of the Chinese government was horrified by the famine. They did not anticipate that the death toll from a planning mistake could be so large. The hardest hit populations were the rural peasants who provided the core support for the CCP, including the home regions of Politburo members. The famine undermined the credibility of bringing an end to famines, and their legitimacy to rule.

The government took actions to minimize political cost of the famine. It almost immediately acknowledged the famine, while also minimizing mortality numbers. The top Politburo members traveled the countryside, publicly displaying tremendous grief with famine survivors. The government initiated nationwide propaganda campaigns such as yiku sitan to convince the population that bad
weather and corrupt local bureaucrats were to blame for low production and over-procurement, and programs such as the \textit{fan wufeng} movement to allow peasants to punish local leaders for famine crimes.

Internally within \textit{the leadership}, the famine was seen as a mistake on the part of Communist Party Chairman Mao Zedong, who suppressed those, such as Peng Dehuai, that warned of famine in 1958. He was forced to step down as the Chairman of the People’s Republic of China in 1959, the first year of the famine. To regain political power after having lost much of his prestige and support from the top leadership, Mao waged a grassroots-powered Cultural Revolution starting in 1966 until his death in 1976.

None of these things happened in the U.S.S.R. The government denied the famine until the 1980s. Stalin viewed the low harvests as the peasants intentionally using famine to undermine the regime. In 1932, when low production numbers were verified, the government decreed that procurement quotas needed to be fulfilled and non-compliant bureaucrats should be arrested. Stalin, and Lenin before him, were particularly concerned that nationalist sentiments of Ukrainians, who were the majority group on agriculturally productive lands, would resist Soviet control.

When ethnic Ukrainian party members began to resign in the face of the extraordinarily high mortality experienced by Ukrainians, Stalin sent trusted non-Ukrainian colleagues, Lazar Kaganovich and Vyacheslav Molotov, to enforce procurement. Ultimately, half of all famine deaths were Ukrainians (who made up around 21% if pre-famine Soviet population). The top leadership never publicly acknowledged the famine. Party members who did not support Stalin’s famine-era policies were systematically persecuted afterwards.

The key cause of the divergence in political response to the famine between the Soviets and Chinese was political. The two governments faced the same fundamental tradeoff: obtain political support of the people versus forcing them to work and repressing resistance. However, their support and political legitimacy differed in relation to the famine.

The Stalin-led Soviet Bolsheviks were the workers’ party. The government could afford to lose the support of the peasants and repress them until they obeyed. The Chinese Communist Party were the peasants’ party. They could not afford to lose the support of the peasants. These differences, which may seem minor, caused famine political-economic dynamics to play out in very different ways in the U.S.S.R. and China.

The differences can be seen in the aftermaths. In China, to ensure no more famines without allowing markets, the Chinese government did the only thing it could do, which was to lower the tax rate to allow peasants to accumulate a buffer stock against future production shocks. China switched from a net grain exporter to a net grain importer immediately after the famine and remained so since that time. Chinese industrialization essentially stopped. Economic growth was zero or even negative during late 1960s and early 1970s.

Soviet per capita incomes grew at a constant rate throughout the post-famine era. The rural labor force decimated by the famine was replenished by migrants from other regions. The economy continued to \textit{industrialize}. While some of the extreme aspects of agricultural collectivization were relaxed, procurement remained high. The Soviet Union remained net grain exporter until the 1960s.
Why should people today care about what happened during these two famines?

These famines are, at first glance, a black box of human wreckage. To make sense of them, we need to understand the detailed political-economic processes that set them in motion. This understanding will help us avoid future tragedies. They also open a large number of questions that need to be answered, which can shed light on recent political and economic developments.

Recent studies have found that Soviet famine contributed to current Ukrainian-Russian tensions and the Chinese famine reduced health and economic outcomes and perhaps even social trust. There are many other pathways through which these calamities affect our political, economic and wellbeing today. These are important avenues for future research.