Economics from the Top Down

new ideas in economics and the social sciences

The Soviet Experiment with Empire

Blair Fix

May 13, 2025

What had come to an end was not history itself,
but an empire, whose time had run out.

— Karl Schlögel in *The Soviet Century*

In my last post, 'The Half Life of Empire', I charted the rise and fall of the British and US empires, as measured by their share of world energy use. Afterwards, several readers requested that I apply the same methods to the rise and fall of the Soviet Union.

Here's my attempt to do so.

Figure 1 shows my estimates for the rise and fall of the Soviet empire, as measured by its share of world energy use. The Soviet 'half life' — the period spent to and from the halfway mark of peak dominance — lasted for sixty six years, from 1926 to 1992.

Some backstory. The Soviet Union formed out of the ashes of the Russian Empire, which itself dates back to the early 18th century. Unlike the British Empire, which industrialized during the 19th century, the Russian Empire remained largely agrarian. (It was one of the last places to allow serfdom.) Hence, Russia saw little material growth during the 1800s.

That would change with the Russian Revolution, which began in 1917. After a half decade of internal turmoil mixed with imperial conquest, the Red Army proclaimed victory and created the Soviet Union in 1922. Afterwards, the Soviet regime embarked on a period of intense industrialization, organized around a series of five-year plans. As a result, Soviet energy use exploded.

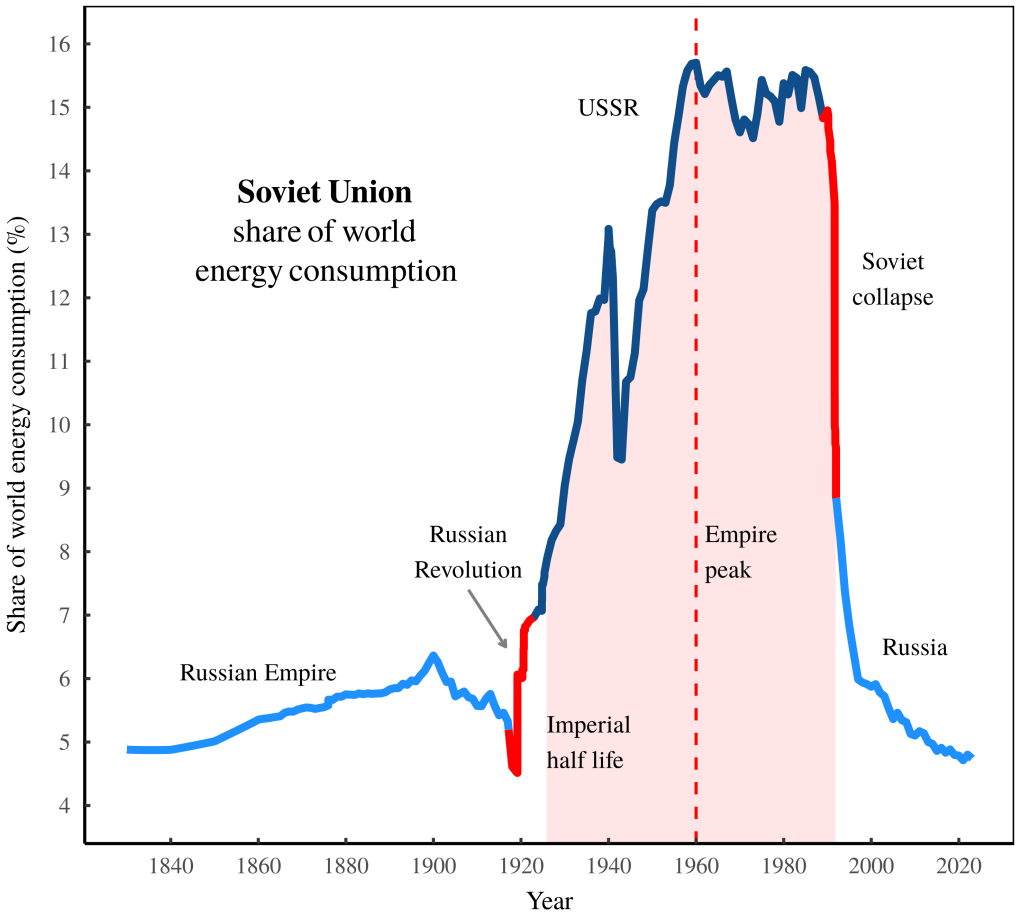

Figure 1: Soviet Union share of world energy use

The Soviet empire went through five distinct stages. It started life as the Russian Empire, which was large in terms of land mass, but backwards in terms of industrial might. The Russian revolution led to new territorial conquests but created economic and political turmoil. When Stalin cemented power in 1924, the Soviet Union began to rapidly industrialize. Fast forward to the early 1990s. The Soviet regime collapsed, leaving behind the Russian nation-state. In addition to territorial loss, former Soviet-block states experienced steep industrial decline throughout the 1990s. Today, Russia's share of world energy consumption is less than a third of the Soviet peak. Sources and methods

---

By the 1960s, the Soviet Union reached its peak level of dominance, consuming slightly more than 15% of the world's energy. Then, after coasting for several decades, the late 1980s saw the Soviet government embroiled in a series of crises which would ultimately proved insurmountable. By 1992, the Soviet regime had collapsed, and the remaining Russian state fell into a deep depression. Today, Russia's share of world energy use is less than a third of the Soviet peak.

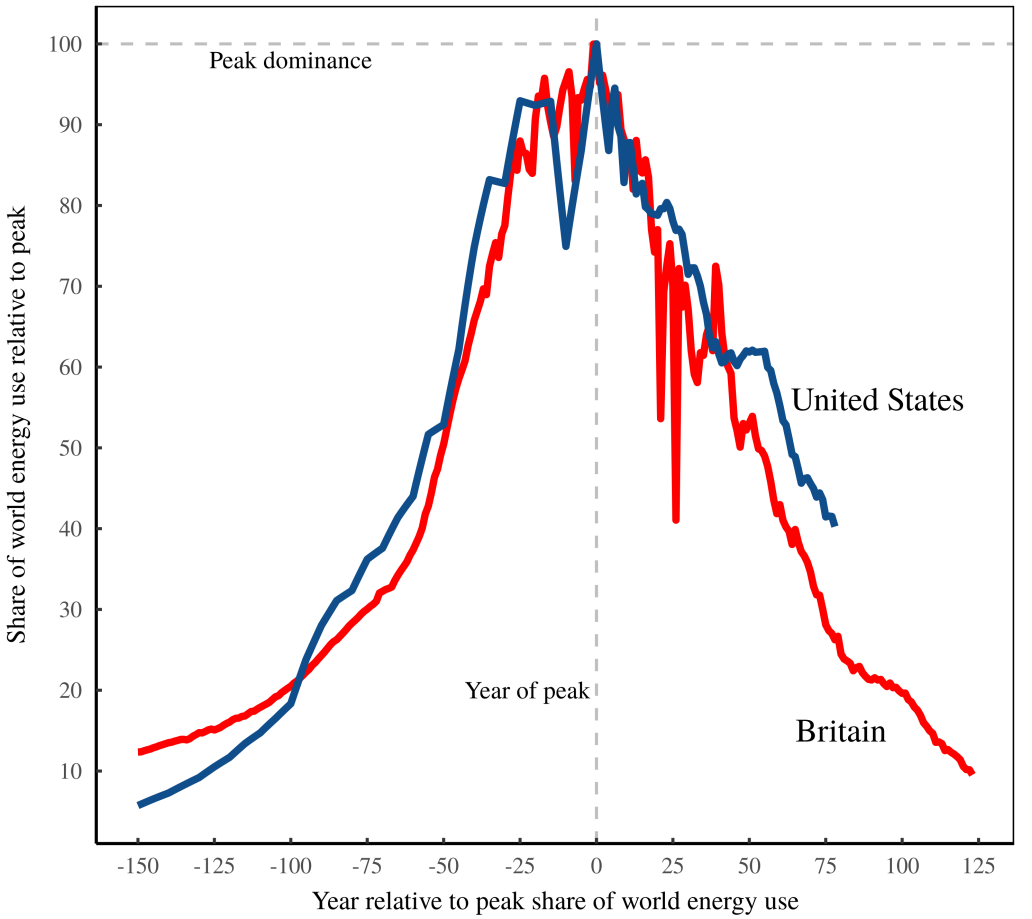

Figure 2: The rhyme in British and US imperial history

This chart shows the British and US share of world energy use, plotted on the same normalized scale. Sources and methods

The Soviet experience: burning bright and collapsing fast

Returning to wider imperial history, one of the intriguing features of the British and US empires is that despite their apparent differences, they've had a curiously similar rhythm. Both empires rose and fell over the course of two centuries. And both empires had a half-life of about one hundred years. Figure 2 shows the similarities.

Is this shared timeline a universal feature of imperial history — a sign that all empires have a fixed destiny? Turning to the Soviet example, the answer seems to be *no*. Figure 3 makes the case.

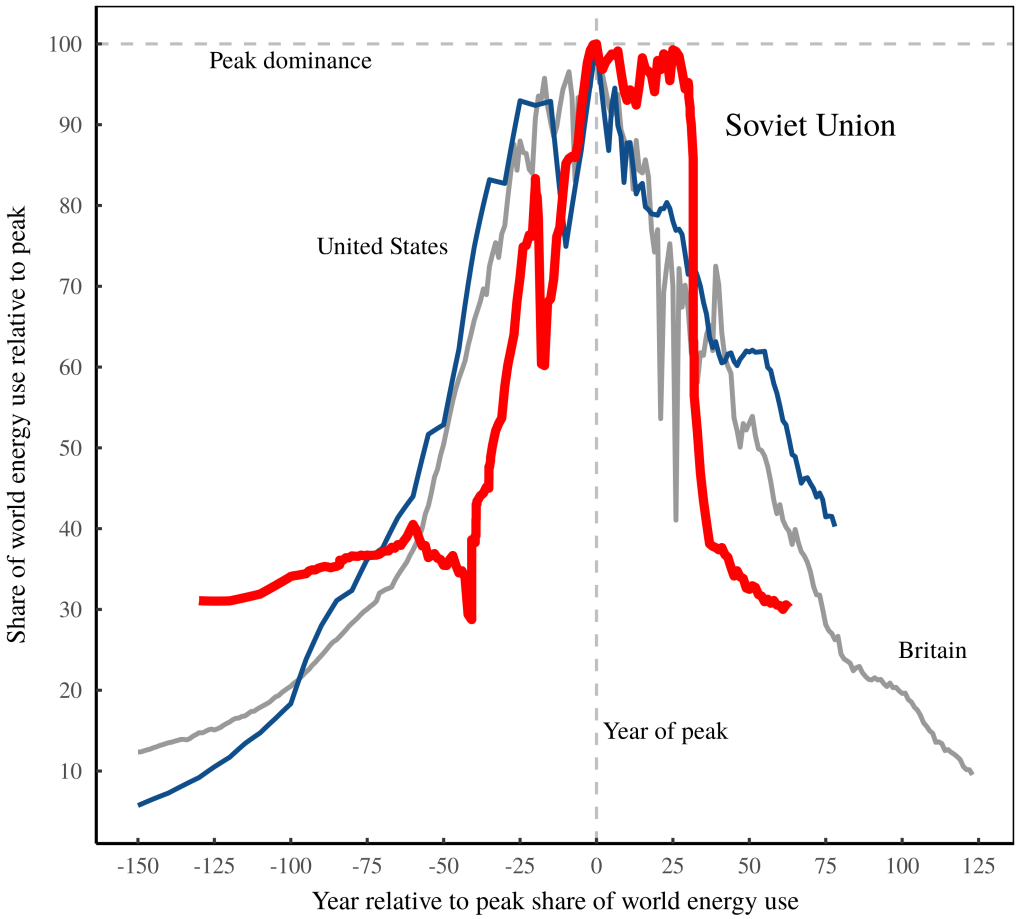

Figure 3: The Soviet experience — an empire doubly punctuated by revolution

In contrast to Britain and the United States, the Soviet Union rose and fell more abruptly, surely because both the beginning and end of the Soviet regime were marked by revolution. Sources and methods

---

Compared to Britain and the United States, the Soviet Union rose and fell more abruptly. And that makes sense; both the beginning and the end of the Soviet empire were punctuated by *revolution*. The Soviet Union was created when the Bolsheviks overthrew the Tsarist regime and instituted state communism. And the communist regime died when the Soviet government collapsed and was replaced by capitalist oligarchy.

In contrast, the British and US empires rose and fell with far less internal conflict. And so their histories of dominance and decline are smoother … at least so far.

Looking to the future, it seems unlikely that American politicians will manage to reverse the US descent into imperial irrelevance. But what *could* happen is that US politics devolve into revolution and/or civil war, similar to when the Soviet Union collapsed.[1] If that happens, expect a punctuated decline of American power.

The Cold War in hindsight

While we've got the Soviet energy data in hand, let's revisit some Cold War history. According to standard lore, the Cold War consisted of a protracted struggle between two superpowers — one capitalist and one communist. In the end (the story goes), the United States won the battle because of the superiority of capitalism.

Turning to the energy data, the empirical story is rather different. As Figure 4 shows, the US exited World War II as the world's sole superpower. In 1945, it consumed about 37% of the world's energy. In that year, the Soviet share of world energy use sat at just under 11% — less than a third the US value.

In this context, it seems inappropriate to call the Soviet Union a 'superpower'. It was a rival empire, yes. But at the dawn of the Cold War, there was no real competition. The US utterly dominated the global picture.

Over the next forty years, however, things changed. From the 1950s onward, US dominance gradually waned, while the Soviet Union managed to maintain its share of the world energy pie. The result was a gradual convergence between the two powers. Indeed, this convergence is the real story of the Cold War, as Figure 5 shows. From the dawn of the conflict in 1947 to the end in 1991, Soviet energy consumption consistently increased relative to the United States.

Of course, when the Soviet regime collapsed in 1991, the energy convergence ended. But should we read this collapse as a testament to the innate superiority of capitalism over communism?

In some ways the answer is yes, simply because things that die prematurely can hardly be called 'superior'. And yet, while it existed, the Soviet regime was remarkable effective at closing the energy gap with the United States. The reasons are not mysterious.

[1] For what it's worth, Peter Turchin thinks that the US revolution is happening now.

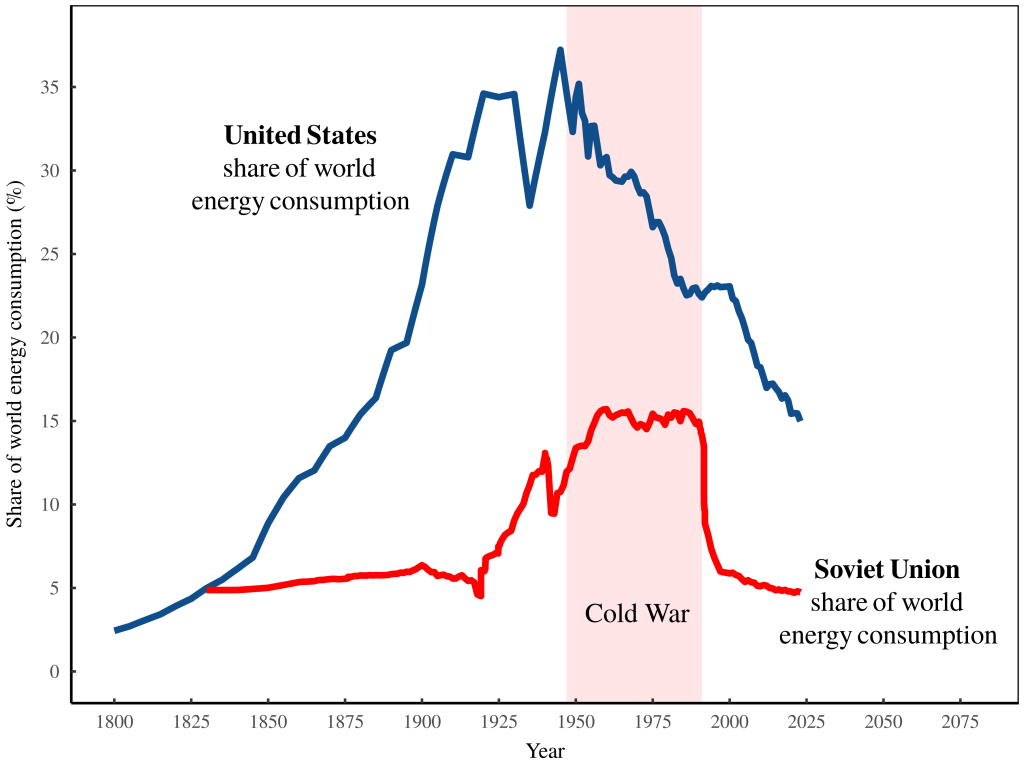

Figure 4: The Cold War in hindsight — a declining superpower, and an ascending rival

According to the energy data, the Cold War was less a battle between 'superpowers', and more of a battle between a dominant empire and an ascending competitor. Sources and methods

---

To a large extent, industrialization is a project of infrastructure build out. To industrialize, you lay railways, you pave highways, you erect cities, and you construct massive factories. And the truth is that these huge projects are *always* done by large hierarchically controlled organizations. So the question is not whether industrialization should involve 'central planning'. The question is whether the 'central planning' should be *state* dominated or *corporate* dominated. The US (and Britain before it) opted for the corporate-dominated approach. The Soviet Union opted for the state-dominated approach.

Since it ultimately collapsed, we know that the Soviet state-dominated approach had a problem with staying power. In this regard, the corporate-dominated approach to industrialization has an advantage, in that individual firms are (usually) small enough that they can fail without breaking the

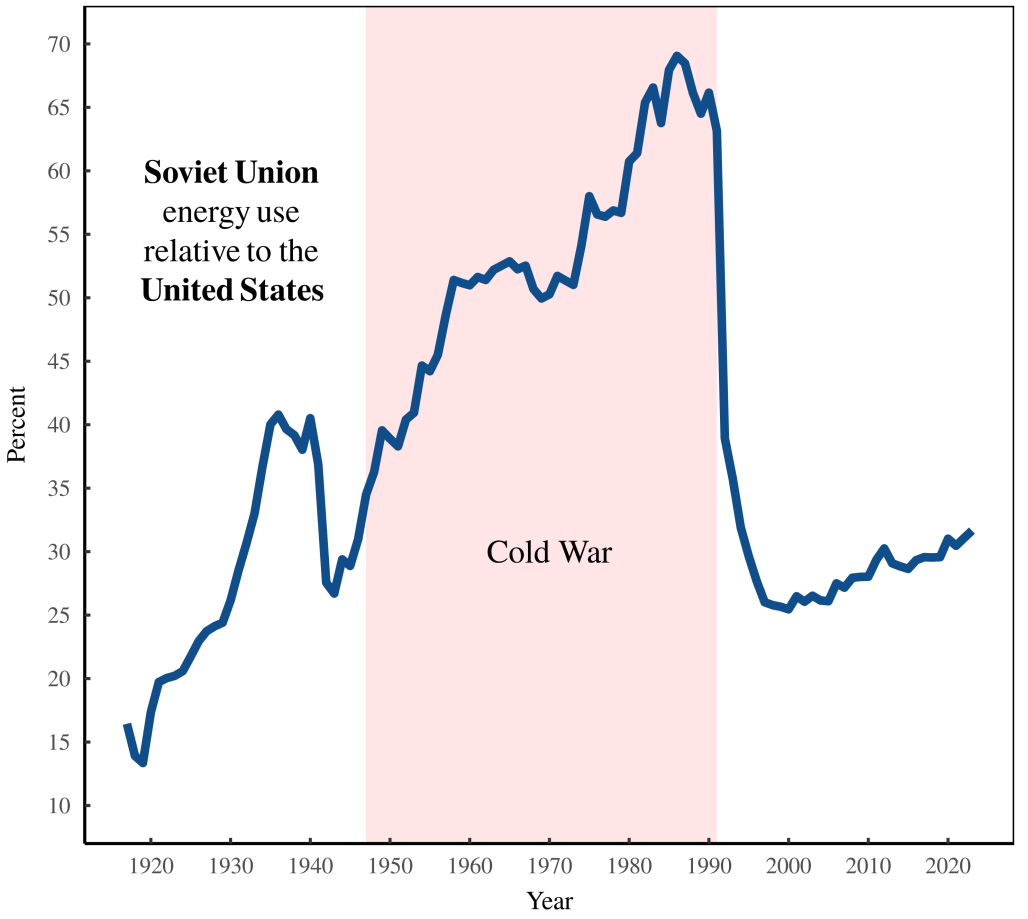

Figure 5: Soviet Union energy consumption relative to the United States

Until its collapse, the Soviet Union appeared to be winning the energetics of the Cold War. Sources and methods

---

whole system. That said, while it survived, the state-dominated approach to industrialization was remarkably successful. (Figure 6 shows some of the big Soviet infrastructure projects.)

Looking at this industrial history, the economist Branko Milanović argues that actually-existing 'communism' proved to be starkly different than the utopia envisioned by Karl Marx. While Marx saw communism as the final stage of social evolution, real-world communism seems to have been an alternative, state-dominated path to industrialization — a path that either *collapsed* into corporate capitalism (as in Russia), or *evolved* into corporate capitalism more gracefully (as in China). Either way, the road to industrialization ended with corporate oligarchy.

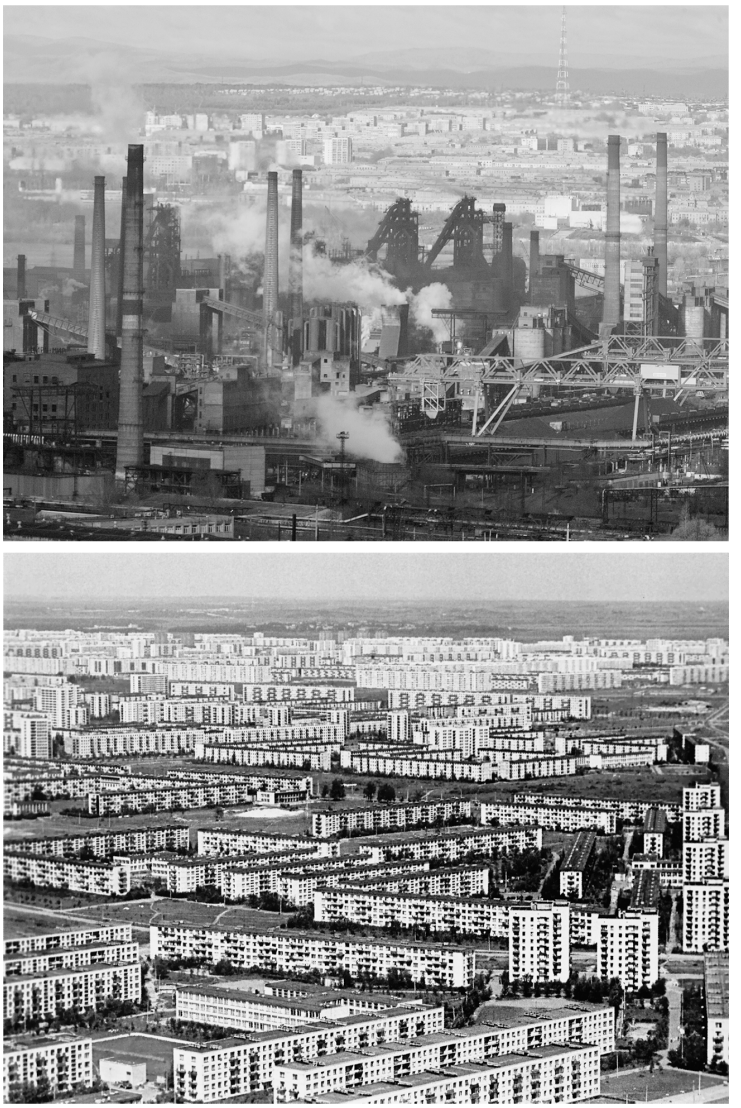

Figure 6: The Soviet infrastructure build out

Top: the Magnitogorsk iron and steelworks plant, which was the largest in Europe when it was constructed in 1929. Bottom: Mass-produced 'Khrushchyovki' apartments in 1970s Leningrad.

Source: Karl Schlögel.

Of course, given the unfolding ecological calamity, it seems doubtful that the oligarchic system has a long-term future. But that's a topic for another time.

Support this blog

Hi folks. I'm a crowdfunded scientist who shares all of his (painstaking) research for free. If you think my work has value, consider becoming a supporter.

Accumulating territory vs. building industry

The rise and fall of the Soviet Union had two components:

1. the expansion/collapse of industrial capacity
2. the appropriation/loss of territory

The latter component was most important at the beginning and end of the Soviet regime. Figure 7 illustrates. During the Russian Revolution, the Red Army conquered huge swaths of Asia, considerably expanding the territory covered by the former Russian Empire. And when the Soviet regime collapsed in 1991, many Soviet-block states gained independence.

The results of this territory gain/loss are visible in Figure 7 as the difference between the *red* curve (which tracks the share of world energy used by all Soviet block countries both before, during and after the Soviet Union existed) and the *blue* curve, (which tracks the energy use of the actual Soviet empire as it gained and lost territory).

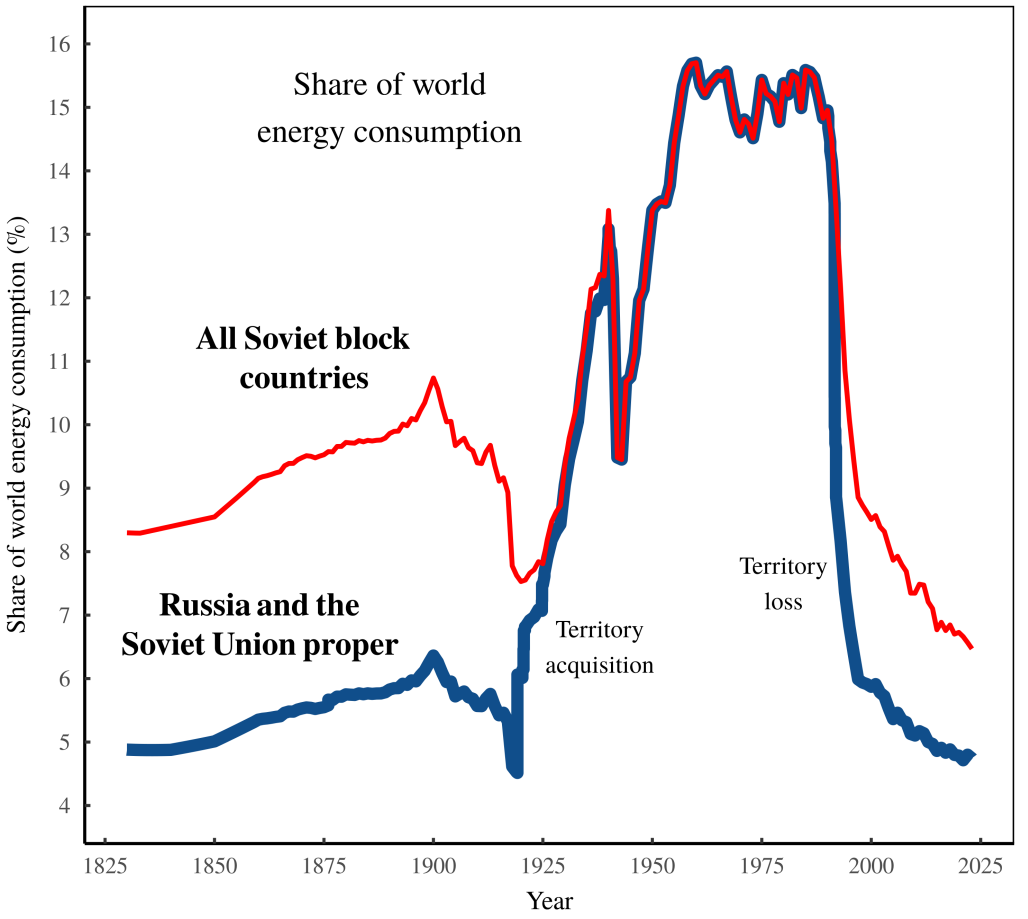

Figure 7: The Soviet Union — a case study of both territorial and industrial expansion/collapse

The two curves show different ways of measuring the Soviet share of world energy use. The red curve tracks the energy use of all Soviet block countries both before and after the Soviet Union existed. The blue curve tracks energy use by the evolving territory of the Soviet empire, which rose dramatically during the Russian revolution, and fell dramatically when the Soviet Union collapsed. Sources and methods

---

Sources and methods

Soviet energy consumption

I estimate Soviet energy consumption by summing the energy used by Russia, plus the energy used by the various Soviet block states during the years they were part of the Soviet regime.

Reliable energy data for these countries — from the Energy Institute Statistical Review of World Energy — goes back to 1985.

Prior to that, I estimate Soviet energy use from its carbon emissions. (Data is from Our World in Data Annual CO2 emissions.) The idea is that carbon emissions track the level of fossil fuel use, which is by far the most important source of industrial energy.

To account for non-fossil fuel energy use (which is most important prior to industrialization), I assume that Soviet citizens consumed about 26,000 KCal per person per day from biomass energy (mostly burning wood). (This number is Ian Morris' estimate for per capita daily energy use in Western Europe, circa the year 1400.)

To convert carbon emissions into energy use, I index the carbon data twice. First, I index the carbon data to Soviet energy use in 1985. The resulting series assumes that Soviet energy use prior to 1985 directly tracks its carbon emissions.

The problem with this estimate is that it ignores non-fossil fuel sources of energy, which become more important as we head back in time. To correct this problem, I then add to the time series the constant value of 26,000 KCal of energy per person per day. (Population data comes from Our World in Data.) Finally, I re-index this updated energy estimate to the statistical data from 1985.

British and US energy consumption

For sources, see the appendix in 'The Half Life of Empire'.

World energy consumption

Data for world energy consumption is from the following sources:

- 1800 to present: Our World in Data, Energy Production and Consumption
- Prior to 1800: data is from Ian Morris' book *The Measure of Civilization*, Table 3.1 & 3.4. Morris reports data for energy use per capita in the East and West. Using population data from Angus Maddison, I use Morris' data to estimate world energy use. I then splice this data to the OWD data in 1800.

Further reading

Fix, B. (2021). Economic development and the death of the free market. *Evolutionary and Institutional Economics Review*, 1–46.

Milanovic, B. (2019). *Capitalism, alone: The future of the system that rules the world*. Harvard University Press.

Schlögel, K. (2021). *The Soviet century: Archaeology of a lost world*. Princeton University Press.