

investment is what made the information technology revolution possible in the first place. The historical evidence shows that really big technological change requires vast amounts of waste. Someone has to be willing to throw huge sums of money around, knowing that most of it will be money down the drain. Private investors lack the appetite for this sort of risk. Only government is willing to waste resources on such a scale. The reason is that government sometimes has more important things to worry about than squandering money. Government waste is driven by the threat of violence.

The foundations of the information technology revolution were laid during the Cold War. It has its roots in the massive US government research and development programmes of the 1950s and 1960s. During this period most of the money spent on scientific research in the United States came out of the military budget. That spending was fuelled by Cold War paranoia – we’ve got to out-invent those crazy, ruthless Russians! – and it was enormously wasteful. But it was what made the difference. The internet began life as a military project; so too did text messaging. Of course, government didn’t know what to do with these things it had created. (The US military assumed that texting would have only very limited, exclusively military, uses.) The whizz kids of the tech industry had to step in and turn scientific innovation into marketable products: from MILNET and ARPANET to Google and Twitter. Private companies do that sort of thing much better than government does. But private companies can only do it because of the heavy lifting that’s already been done by government, spending the public’s money like there was no

tomorrow.

The same story can be told about ‘fracking’, another transformative technology that is enriching plenty of private individuals who can claim to be supplying a public good (cheaper fuel). Whether or not it is a public good remains debatable: the environmental costs have yet to be reckoned. What is much harder to claim is that the people making the money are the ones responsible for the technology itself. The crucial innovations were a consequence of large-scale government spending on new means of energy extraction during the 1970s. The driving force behind that spending was the decade’s ‘oil crisis’, starting with the Arab– Israeli war of 1973, which triggered a quadrupling of oil prices and a worldwide recession. Politicians were terrified of the possible consequences of oil scarcity: civil unrest, military weakness, social breakdown. Frightened politicians promote technological revolutions to forestall political ones. Further down the line, private investors reap the rewards.

Unfortunately, ‘fracking’ doesn’t herald the advent of a green technological revolution. It is simply a more efficient way of extracting hard-to-get-at fossil fuels. A big shift to green technology would take something extra: a fresh set of acute political threats to get the politicians spending our money on the scale needed to trigger a fresh round of innovation. For now, the politicians are more scared of other things, including the risk of running out of the public’s money. (That’s where being burdened with large and inflexible welfare states may be stifling innovation.)