SHOCKING CONTRASTS

In the fourteenth century, the Black Death killed as much as two thirds of Europe’s population; in the fifteenth, the introduction of moveable-type printing rapidly expanded Europe’s supply of human capital; between 1850 and 1914, Russia’s population almost tripled; and in World War I, the British blockade starved some 800,000 Germans. Each of these, Shocking Contrasts argues, amounted to an unanticipated shock, positive or negative, to the supply of a crucial factor of production. It also elicited one of four main responses: factor substitution; factor movement to a different sector or region; technological innovation; or political action, sometimes extending to coercion at home or conquest abroad. This book examines parsimonious models of factor returns, relative costs, and technological innovation. It offers a framework for understanding the role of supply shocks in major political conflicts and argues that its implications extend far beyond these specific cases to any period of human history.

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SHOCKING CONTRASTS

Political Responses to Exogenous Supply Shocks

RONALD L. ROGOWSKI

University of California, Los Angeles
For my wife and daughters

Karin Margaret Best
Emma Lynn Best Rogowski
Clare Brigitte Best Rogowski
We . . . need to become comfortable in thinking about the economic activity of the human race, not merely in terms of gradual movements of technical and economic progress occurring by insensible degrees, but also as shoved on occasion by shocks, many barely noticed, some easily absorbed, and a few with cataclysmic consequences.

Larry Neal, “A Shocking View of Economic History”
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Just as I was finishing up work on this book’s chapter on the Black Death, the COVID-19 pandemic broke out. Suddenly, even the front page of the New York Times was discussing supply shocks; and, while the plague of 2020–2021 was (despite its shocking toll) trivial compared to the Black Death’s loss of some two-thirds of Europe’s population, it brought home how greatly an unanticipated and exogenous change can affect economic and political life – and how greatly countries can vary in their responses to such a shock.

The puzzle of varying responses to pandemics led me to search out other cases in which some unanticipated and exogenous event had sharply increased or decreased a region’s supply of some crucial factor of production. I had also long been interested in how, or even whether, a new factor-biased technology could alter the supply and relative price of factors. And, of course, unforeseen openings or closings of trade routes, and with them increases or decreases in the effective supply of essential factors of production, were an old interest of mine.

I had originally thought only to consider how such exogenous changes affected inequality within societies; but a pair of criticisms – one by Jim Robinson over a decade ago, and the other by my former student Thomas Flaherty in late 2019 – convinced me that the more interesting question was how and why different governments or societies responded to the same shock in such different ways (with, of course, usually very different consequences for inequality).

1 I gave a talk on that chapter at Princeton University on March 9 – which turned out to be the last talk in that series before everything closed down. People sensed what was coming, and the after-talk dinner was peppered with dark humor about its being “the last supper.”
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Those criteria thus became my leitmotif for case selection: (a) a clearly exogenous, severe, and unforeseen change, positive or negative, to the supply of some factor of production, which (b) had elicited responses that differed sharply between or within societies. The classic case was of course the Black Death of the fourteenth century. The acute labor shortage that it occasioned elicited almost polar opposite responses in Western and Eastern Europe: ending serfdom and decreasing inequality in the West; enserfing the peasantry and sharply increasing inequality in the East. In Chapter 4, I offer a new conjecture, which attributes the divergent responses to differences in soil and climate.

Thinking about the Black Death, which had reduced Europe’s population by 1420 to one-third of its early fourteenth-century levels, put me on the search for a case in which some exogenous shock had increased a country’s population by a factor of three. I instantly recalled Keynes’s offhand comment in Economic Consequences of the Peace, that the tripling of Russia’s population between 1850 and 1914 had been a major cause of the Bolshevik Revolution. But was that increase in any meaningful sense exogenous? Wasn’t it a standard early stage of demographic transition? I thought I was being clever and original in speculating that the construction of Russia’s railway network might have somehow contributed; but then I learned in a conversation with Nathan Nunn (with whom I carry a shamefully negative balance on current intellectual account) of the Burgess and Donaldson paper showing that railway construction had alleviated famine and spurred population growth in colonial India (Burgess and Donaldson 2012). Once I learned that Russia’s railroads, like those of the Raj, had been routed chiefly for the exogenous reason of military advantage, I warmed to Keynes’s twin questions: Had railways spurred Russian population growth, and were they somehow connected to political unrest in the late Czarist period? Here, the question was one of contrasting reactions within a country – some regions rebelled, others remained quiescent – rather than between nations. I offer possible answers in Chapter 5.

In teaching an undergraduate course on Fascism over several years, I had come to accept another of Keynes’s conclusions, amplified by the crucial work of Adam Tooze on the German wartime economy (Tooze 2008): that the supply shock that faced Europe during and after World War I was its loss of ready access to the fertile lands of the New World. Here, not only did reactions differ across countries – Germany clearly differed from France and the United Kingdom – but within Germany: a substantial minority supported the Nazis’ genocidal answer, the pursuit of nutritional self-sufficiency through the conquest and settlement of...
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Lebensraum, while a majority, even as late as the last free elections of 1935, did not. One obvious possibility was that Germany had suffered actual mass starvation in World War I, while other European states had not; and that, within Germany, the incidence of hunger had varied strongly across regions. I pursued that hunch with the invaluable help of Professor Jürgen Falter, who kindly provided me with his datasets on Nazi membership, Nazi voting support, and demographic characteristics of Germany’s cities and regions in the interwar period. Results are presented in Chapter 6.

My reading in international political economy and development economics had convinced me of the crucial importance of human capital. Were there cases of exogenous and unanticipated increase or decrease of this essential factor of production? Every case of decrease that I could find was endogenous: rulers deliberately drove out or massacred persons of skill and talent, or civil wars forced them to flee. To the regions that received those refugees, on the other hand, the accretion of human capital was, in at least a few cases, unexpected and unsought. The clearest such case in modern European history was Louis XIV’s impetuous expulsion of the French Calvinists – the Huguenots – in 1685; and one of the receiving areas that benefited the most was Protestant Germany, most notably the Electorate of Brandenburg-Prussia (Hornung 2014). It became clear, however, that Protestant German cities and principalities had differed widely in their receptivity to the Huguenot influx: some, such as Brandenburg, had actively recruited them with subventions and privileges; others, such as Weimar or most of the Hanseatic cities, had either rejected them or treated them as inferiors by, for example, not allowing them to own property, join guilds, or become citizens. What could explain these varying responses? I suggest, in Chapter 7, that a combination of new ideas (about guilds and economic growth) and proximity to trade routes mattered most.

Next, I wanted to examine at least one case of a technologically induced supply shock. Only a few of these were truly exogenous and unexpected, but in some cases an originally endogenous innovation so overshot the initial need as to become an unexpected multiplier of one or more crucial factors of production. Here, the leading historical example seemed to me to be the invention of moveable-type printing around 1450, which had led to an unanticipated explosion of literacy and knowledge. Why had it arisen when it did, and why had different states and regions within and beyond Europe responded to the invention in ways that varied from enthusiastic acceptance (the Netherlands) to outright prohibition (the Ottoman Empire)? I suggest, in Chapter 8, that new opportunities in
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commerce and state-building provide most of the answer – and shaped a stark difference between southern and northwestern Europe.

Last of all, I sought to discern common features that influenced how people and societies responded to such supply shocks. People, I assumed, were rational enough to seek the least costly response that could avert major loss. Coercion – violent resistance to change – would normally be the costliest route; factor substitution, using less of a newly costly factor and more of a newly abundant factor, the cheapest. I tease out these implications in Chapter 2. Chapter 3 covers the intermediate route discussed almost a century ago by Hicks [(Hicks 1963); 1st edition 1932], namely a factor-saving technological innovation: When and why does such an innovation arise, and why – at least until the last two centuries – were such innovations so rare?

This book would not have been possible without the unstinting help of my friends, students, family, and colleagues (and those categories do not mutually exclude one another). I inevitably will overlook some important ones here, but a partial list will include the following:

Three institutions housed me during research leaves: in Berlin, the Wissenschaftskolleg and later the Hertie-Universität; in Cambridge, MA, the Weatherhead Center at Harvard University. I am grateful to my hosts at each: at the WiKo, Joachim Nettelbeck and Luca Giuliani; at the Hertie, Mark Kayser and Mark Hallerberg; at the Weatherhead, Kathleen Molony – who did especially heroic work shepherding us all through the pandemic – along with Ted Gilman, and Erin Goodman. Financial support came from New York University, Abu Dhabi (where I was also an occasional visiting professor) and the Division of Social Sciences at the University of California, Los Angeles (UCLA). During my stay at the Hertie, I exploited the generous hospitality of Uli and Marta Mayer, whom Karin and I are now privileged to count among our dearest friends.

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I benefited also from the expert advice and criticisms of many colleagues in many countries and specializations: leading citizens of our
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I have presented various parts of this work at different stages of its development at the regular Tuesday seminars of the Wissenschaftskolleg,

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