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A Shocking View of Economic History

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Economics, like geology, is an historical science. Geology has made incredible advances by accepting it is an historical, rather than a laboratory science. Economic historians can help economics make similar advances by adopting the research strategies of modern geology. Intensely empirical and global in their range, today's geologists focus on the historical remains of shocking, usually catastrophic, events in the earth's past. Already empirical and global, economic historians have ample shocks to study whether their specialty is population, technology, or institutions. A few examples of the possibilities should stimulate us to reinvigorate our parent disciplines of economics and history.

I appreciate the honor this association has conferred upon me, although it is clearly more a recognition of the number and quality of students who have allowed me to sign off on their dissertations than it is of my own scholarly contributions. I have enjoyed learning about an amazing variety of economic experiences in working with students from William Hausman, who went on to a distinguished career at William and Mary, through Eugene White, David Wheelock, Daniel Barbezat, Alan Dye, and Stephen Quinn, to mention just a few, to Marc Weidenmier now just starting at Claremont-McKenna. I would be remiss, however, if I did not take this opportunity to acknowledge the continued debt I owe to a number of my former teachers. Whatever I learned about how to supervise a thesis was taught me by Robert Aaron Gordon at Berkeley, famed among my generation of graduate students for returning one's first draft with more text in the margins than in the original. Albert Fishlow taught me how to persevere in the pursuit of the truth even when it meant enduring the continued drudgery of encoding masses of numbers of doubtful legitimacy. Paul David, then just a fresh-faced assistant professor, managed to deflect me from law school in my senior year at Stanford. I should also pay tribute to the spirit of Alexander

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Gerschenkron because, sitting through repeated lectures by first Paul David, then at Berkeley by Albert Fishlow, and finally Henry Rosovsky, I heard Gerschenkron's most memorable lectures at least three separate times!

Of course, one's scholarly instincts and willpower are formed much earlier than graduate school or even undergraduate days. My most memorable high school teacher was Herb Lewis, my debate coach in Ashland, Oregon, who literally paddled me on to win two state championships. At the very beginning of my formal education, however, I do believe the strongest imprint came from Mrs. Alice Aly, an associate professor of education at Arizona State University. After World War II, Mrs. Aly took a sabbatical leave to try out some of her ideas on accelerating the learning process. The ideal laboratory for her experiments, she felt, was the one room school house in the remote mining camp of Crown King, Arizona. There, she took me through the first three grades my first year.

It was not until just a few years ago that I realized that in that same classroom was another future academic, Eldridge Moores, Junior, son of one of my father's few friends in that remote and rough community. I discovered this while reading one of John McPhee's wonderful books on the geology of the United States, *Assembling California.* After touring much of California's fault blocks with Moores, McPhee talked him into returning to Crown King to get some personal background. Moores recalled that at age ten, in the back seat of his parents' car going up the interminable switchbacks on the dirt road to Crown King, he had once blurted, "I've had it! If I never do another thing, I'm going to go out of here and stay out of here!" He did not return until McPhee insisted; I did not return until after reading McPhee's account and then only at the insistence of my wife and daughter. McPhee's books have made Moores one of the most famous geologists in the world, so I will not recount his accomplishments here, except to note that Mrs. Aly did advance him through grades four and five the year I was in Crown King. Beyond the similarity in our initiation into formal education, the implicit evidence in favor of small classes with heterogeneous students, and the motivating force of an unpleasant social environment, is there the possibility of deeper connections and implications of this brief and long forgotten chance encounter of a future geologist and a future economist with an inspired teacher?

MOTIVATION

My colleague at Illinois, Salim Rashid, has written provocatively about the early connections between British economics and geology.[1] According to Rashid, at the beginning of the nineteenth century, it was thought natural for one professor to teach political economy, geology, and theology. All

[1] Rashid, "Political Economy."

three fields demonstrated the underlying harmony of the natural order, whether it was revealed in the functioning of the economy, in the shaping of the earth, or in the spiritual realm. Geologists were the first to break away, thanks to their fascination with observed inconsistencies with received theory. The father of modern geology, according to John McPhee, was the Scottish geologist, James Hutton.[2] Near the end of the eighteenth century, Hutton observed what is now called by geologists an "angular unconformity," a place where two rock formations with obviously different origins abut one another. This led geologists to seek out angular unconformities wherever rock formations from two separate geologic eras have collided. Sharing their observations from around the world with one another they developed the idea of continental drift, an idea with no hard empirical evidence and no coherent theory to support it. But continued field work by generations of geologists gradually accumulated more and more circumstantial evidence to support the idea.

The father of modern economics was also Scottish, the moral philosopher Adam Smith. Following his lead, scholarly economists, by contrast to geologists, when confronted with the empirical observations of rapid technological change and rising real wages and growing populations, retreated further into the realms of moral philosophy and increasingly abstract theory. This approach seemed more effective for influencing, eventually, economic policy, which had to confront the irreversible changes taking place throughout the world of the nineteenth century. Analogous to the angular unconformities of geologists, however, Malthusian unconformities, empirical refutations of the Malthusian thesis that population pressures inevitably lead to falling standards of life, have proliferated in the two centuries since Thomas Malthus published his *Essay on the Principle of Population*.[3] But there is yet to emerge a political consensus worldwide that this represents anything more than a brief feasting upon an exhaustible resource—be it coal, oil, or hydrogen. How should we economic historians go about providing the bedrock of empirical observation that can lead to a paradigm that encompasses more of the actual human experience?

I suggest that we extract some useful lessons from the discipline of geology, now one of the preeminent "historical sciences" among the natural sciences. One characteristic of geology is its wide-ranging, global reach, from the isle of Cyprus to the foothills of the Sierra to the islands of Indonesia and the edges of every continent. With our increasing attention to global economic history, we have begun to imitate geology in this respect. Another characteristic of geology, however, is its search in each location for the remains of catastrophic events in the history of the earth itself. Examples are

[2] McPhee, *Annals*, pp. 76–79.

[3] Malthus, *Essay*.

the ophiolitic sequence created by subducting plates, sheeted dikes from spreading centers in the ocean floor, or angular unconformities when two geologic eras collide. That is, field geologists look for the historical remains of shocks. In the late twentieth century the acceptance of catastrophes as the primary phenomena to be studied—rather than the gradual erosive action of water, wind, and ice—split the historical science of geology between opposing ideologies of catastrophism and uniformitarianism.

Over half my life has been spent traveling back and forth between the glacial silt plain of Illinois and the volcanic disruptions evident in the Cascade range of Oregon. Repeatedly confronting the geologic contrasts of Illinois and Oregon—Illinois a prime example for Uniformitarians and Oregon only comprehensible to Catastrophists—I eventually realized that my work in economic history was moving from the equivalent of Uniformitarian methodology toward grappling with the evidence of repeated shocks to economies of the past. Many of these shocks merit description as economic catastrophes, but some appeared to contemporaries as economic miracles. I sense also that the economic history profession has been moving in this direction. I want to encourage that movement, mostly to keep our field interesting, but partly in the hope that the equivalent of a tectonic plate revolution may emerge in economics and history as a result. Like modern geologists, we economic historians 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.

Economics, like geology, is an historical science. Moreover, as geologists have done, economists should spend much more time and effort on comparative historical research to try to explain the equivalent of "angular unconformities" that are so evident in human experience. They range from Boserupian exceptions to the Malthusian thesis to technology shocks to "anomalies" in today's financial markets.[4] Their existence surprises economists, but the dominant economic theory too often lets them be shrugged off as minor, idiosyncratic, "exogenous" shocks, rather than the basis for economists' research agendas. Economic historians are perfectly positioned to take up this challenge, with our background of extensive historical examples from the Western world and our growing knowledge of the rest of the world. Let me briefly illustrate some of the possibilities by taking examples from the apparently stable, or only gradually changing, background conditions that are ignored by most economists, but that occupy most of our energies as economic historians—population, technology, and institutions.

[4] Boserup, *Population.*

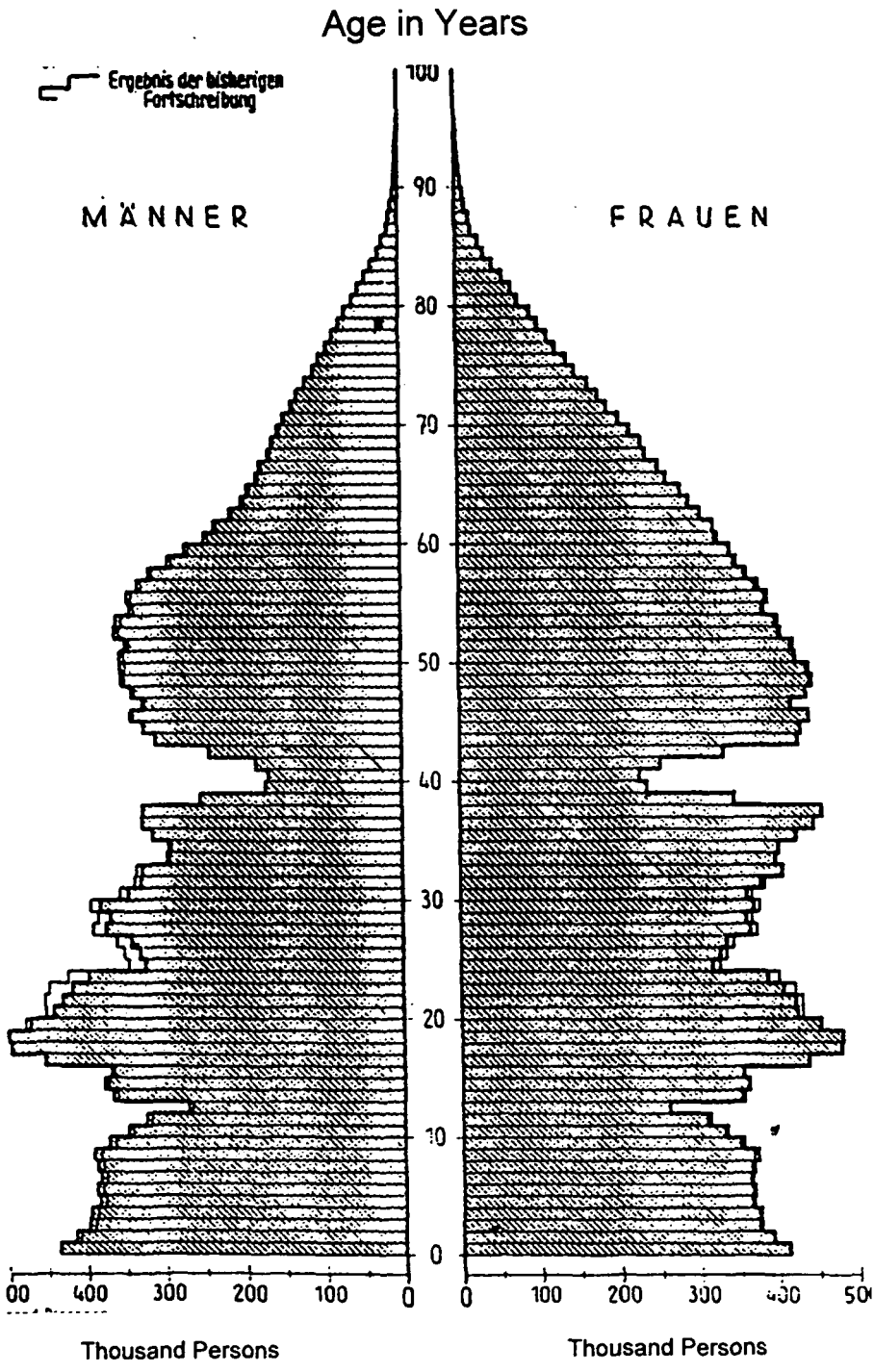

FIGURE 1
AGE STRUCTURE OF THE WEST GERMAN POPULATION, 1957

Source: West Germany, *Wirtschaft und Statistik*, 1959, p. 132.

POPULATION

Germany in the twentieth century has experienced incredible shocks to its population structure, faithfully recorded for future historians by their bureaucrats. (See Figure 1.) The age-sex structure of West Germany in 1957 shows the loss of military age men during World War I, the birth dearth of the Great Depression, the further loss of military-age men in World War II, and then, for West Germany, the recovery of military-age men during the immigration influx from 1945 to 1960. Surprisingly little work has been done to explore the ramifications of these shocks to the population structure of Germany on the economic performance of the country. One of the most interesting anomalies is why there was not a baby boom at some point after World War I and especially after World War II, say during the late 1950s or early 1960s. Instead, increased labor demands in the booming West German economy of the 1960s were met with increased male immigration from Yugoslavia and Turkey, while young German women increased sharply their years of education. Much of West Germany's economic success in the 1950s stemmed from mobilizing the flood of working age, well-educated, highly motivated immigrants from East Germany and beyond into their economic structures, especially in the American zones of occupation.[5]

Extrapolating naively from that historical assessment, I assumed, along with many others, that the reunification of Germany in 1990 would give another impetus to economic growth and investment in West Germany. East Germans would now be free to move once again to the more desirable employment opportunities in the West. This has not happened, of course, because the West German government in effect substituted a currency reform in East Germany for the Berlin Wall as a device to keep East Germans from flooding into the west. The currency reform of July 1990, which overvalued the East German currency by an order of magnitude, effectively stopped the flow of immigration into West Germany from East Germany. (See Figure 2.) But, until the infrastructure of East Germany can be brought up to West German standards, the currency reform also prevents West Germany from benefiting from the placement of East Germans into higher productivity jobs. Ten years later this policy does not appear nearly as fruitful as the policy adopted by West Germany in the 1950s. The shock absorption policy has changed completely, and the effects have had some predictable consequences—the substitution of capital flows from West to East for labor flows from East to West—and some not so predictable—that labor flows had more productive effects in the 1950s than capital flows had in the 1990s.[6]

[5] Neal, "Slowing Population Growth."

[6] Neal and Barbezat, *Economics*, chap. 9.

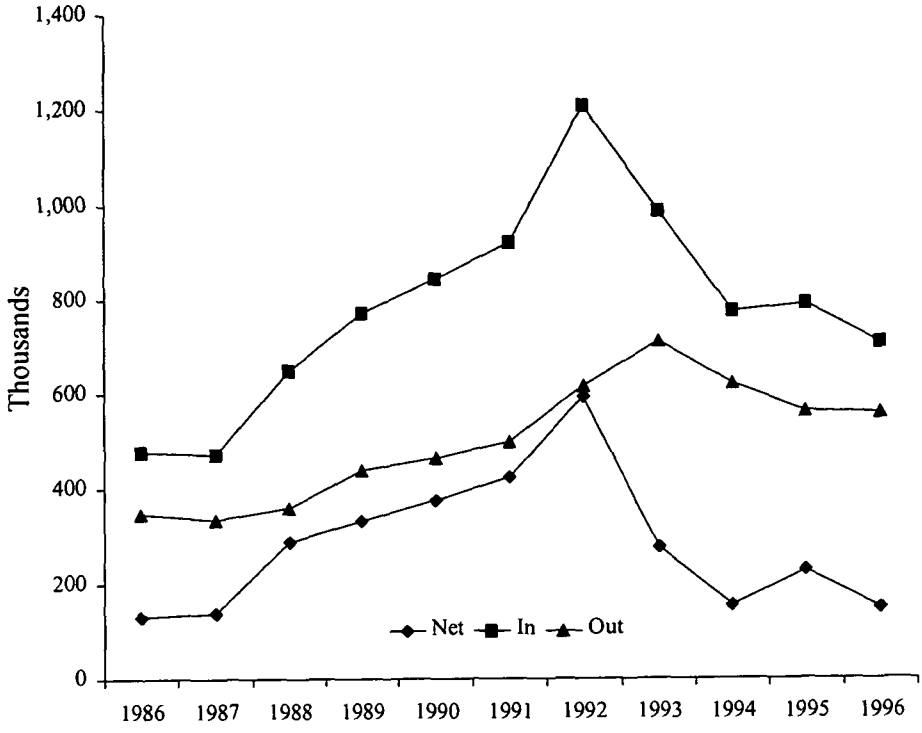

FIGURE 2
MIGRATION FLOWS, GERMANY, 1986–1996

Source: OECD, *Trends*.

The German experience with population shocks is not unique, of course. Variants have been observed in other countries of Europe that were subjected to the same shocks of the two World Wars, the Great Depression, and the collapse of the Soviet Union. Equally spectacular shocks to populations have occurred in the Middle East, central Asia, and Southeast Asia—they have just not been as well recorded as those of twentieth-century Germany. They surely will repay careful study by demographic and economic historians as well, as the recent work by Jeffrey Williamson and students demonstrates.[7]

TECHNOLOGY

The ongoing revolution in information and communications technology that dominates our economy today has led first to a productivity slowdown in the 1980s and then a productivity acceleration in the 1990s, both of which were

[7] Bloom and Williamson, "Demographic Transitions"; and Higgins and Williamson, "Age Structure Dynamics."

surprises to the currently active generation of economists. Eventually, the work of Paul David and his students and colleagues at Stanford led to an understanding of both phenomena.[8] David's work on the sequence of the productivity consequences of the substitution of electricity for steam power in American manufacturing plants in the first quarter of the twentieth century has persuaded many that substituting a new technology, say electricity for steam or word processors for typewriters, within the production structures in place for the old technology, will keep the new technology from revealing its potential until the rest of the production structure has been reorganized and rebuilt appropriately around the new technology. This insight explains why what historians of technology correctly identify as a revolutionary change appears to historians of economies as a very gradual evolution.

David's other insight, that the effects of network externalities implicit in a new technology may by pure accident lock-in an economy to an inferior technology—the QWERTY typewriter keyboard, VHS video cassette recorders, Windows operating system for personal computers—is more questionable.[9] There may be a sequence of serial monopolies in these technologies, each motivated to maintain its position ahead of the next generation of improved technology. As long as market forces can sustain a credible threat of displacement to the currently dominant technology, its owners will be motivated to maintain their temporary monopoly as long as possible by reducing price and increasing service to consumers.[10]

The defense of Microsoft's domination of the operating system installed on IBM-compatible PCs, on this line of argument, is that Microsoft has created superior word processing and spreadsheet software in the face of intense competition. Its current domination of those software markets is due to the superiority of its products. Fear of being displaced by an advanced version of software forces Microsoft to keep prices low and service high. As convincing as this argument may seem to individuals who have never used a competing product and then seen it disappear as a result of incompatibilities with Windows, I have yet to meet a WordPerfect or Quattro Pro user who believes that Word or Excel is the superior product!

The possibility of Bill Gates's empire being displaced in the near future by a superior, competing computer technology should quicken the pulse of anyone who has read the message on their screen, "Your computer has performed an illegal operation and will be shut down. If the problem persists, contact your vendor." To hearten such individuals, they should look at the history of the electric interurban railways in the United States.[11]

[8] David, "Computer."
[9] David, "Understanding the Economics of QWERTY."
[10] Leibowitz and Margolis, *Winners*.
[11] Hilton and Due, *Electric Interurban Railways*.

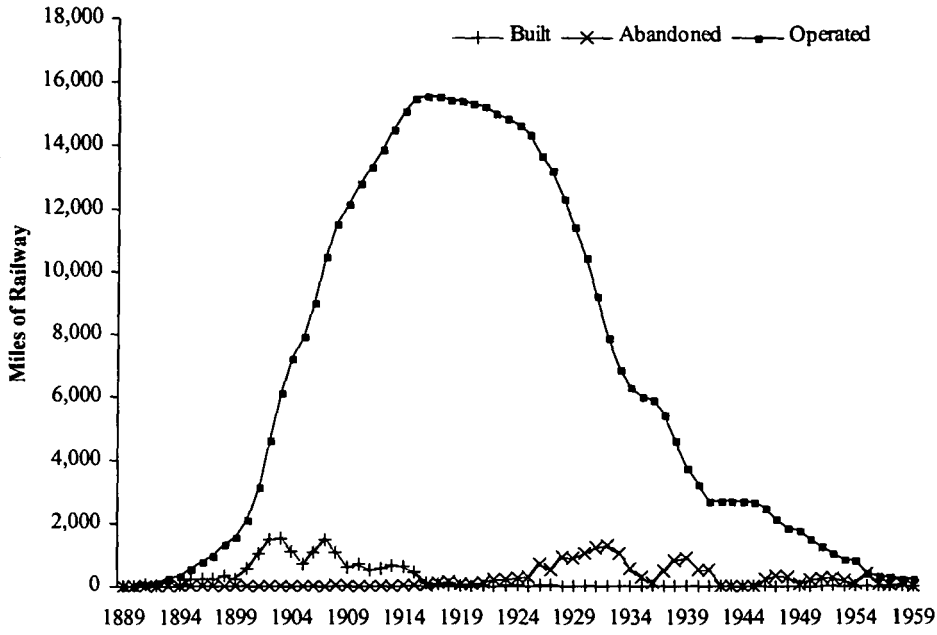

FIGURE 3
RISE AND FALL OF THE INTERURBAN RAILWAY

Source: Hilton and Due, *Electric Interurban Railways*.

In the first decade of the twentieth century, a huge investment boom in electric interurban railways occurred in two bursts of frenetic activity, one between 1901 and 1904 and the other between 1905 and 1908. (See Figure 3.) By World War I a substantial network was in place, providing cheap, environmentally friendly, transportation to the urban masses and much of the Midwest. It went into sharp decline after the war and was annihilated during the Great Depression, during which the personal automobile displaced it almost entirely. There must be numerous examples of ephemeral technologies, and it would be well worth studying the background conditions necessary to facilitate their demise. How technology shocks are absorbed, deflected, or repulsed is certainly a more interesting way to analyze their effects than assuming that technological change occurs at a continuous, steady pace. In technology, as with tectonic plates, the distance of centuries is occasionally covered in much briefer spans, with the surface changes filling in only gradually.

INSTITUTIONS

The New Institutional Economics has created a resurgence of interest in economic history, with focus on specific episodes that show the ways that new

institutions arise, catalyze economic changes, and eventually come to their demise. Episodes initiated by exogenous shocks will yield the most interesting and fruitful results for our colleagues in economics, history, and political science. Identifying these episodes is sometimes done easily, sometimes it requires something like the geologist's tool of a seismograph, an instrument to measure the size of shocks. Some of my early graphics, I now realize, actually appear to be subconscious attempts to mimic a seismograph.[12] The French economic historian Marc Bloch referred to the history of prices as the economist's version of a seismograph; both are devices to measure the size and frequency of shocks. Bloch admonished that the economist's seismograph could have important feedback effects upon the source of the shocks in turn, unlike the sustained objectivity of the geologist's seismograph.

FORMAL INSTITUTIONS

My work in recent years has argued consistently that well-organized securities markets provide the most sensitive seismographs of all and that we do possess a remarkable quantity of reliable measurements of the effects of shocks of all kinds upon these securities markets, dating from at least 1698. Can these historical seismograms instruct us at all about the nature of shocks afflicting our economies today? Consider Figures 4 and 5, the first showing the fluctuations in annual yields of long-term government bonds issued by European countries in the late nineteenth century, the other showing the same for European countries in the late twentieth century. Belgium and France show remarkable fluctuations relative to the United Kingdom in the first case, whereas Italy and Portugal diverge widely from Germany and France in the second case. Then, something happens that makes the volatile countries conform to the more stable countries. Economic historians will recognize in the first graphic the effects of the universal adoption of the gold standard by European nations after 1880; economic policy makers will recognize in the second graph the effects of the formal adoption of the euro, the common currency of the European Union, in 1999.

What was the cause of this sudden change in the patterns revealed by our economic seismograph? Clearly it was institutional change, the switch in the rules of the international money game from maintaining independent monetary policies to maintaining fixed exchange rates. But just as clearly, it was not the adoption of more advanced information and communications technology that led to convergence in either case. Investors in long-term government bonds were kept well abreast of movements in the markets for each of the bonds shown in the first graphic for at least 20 years before the institutional change. Despite the linkage of securities markets in the late nineteenth

[12] See Neal, *Rise*, figure 7.3, p. 145.

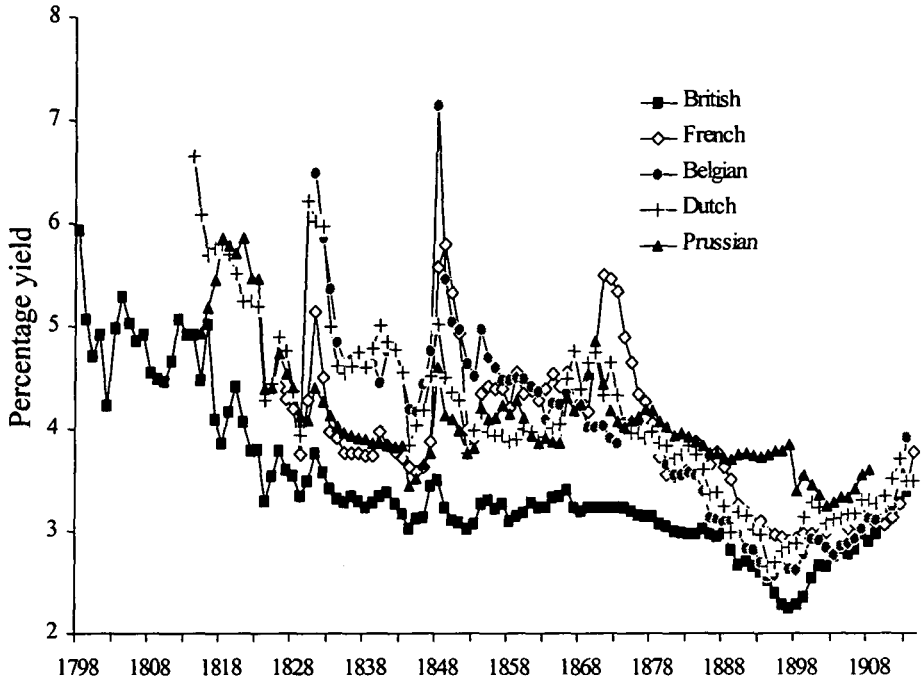

FIGURE 4
GOVERNMENT BOND INTEREST RATES, NINETEENTH CENTURY

Source: Homer and Sylla, *History*.

century by telegraph networks that stretched throughout Europe and across the Atlantic, major differences in yields among similar securities were considered appropriate by well-informed participants in the well-organized securities markets of the time.

Likewise, the instant availability of information about the market conditions for European bonds that was increasingly available to investors after World War II, and certainly by 1980, still generated acceptance of substantial differences in yields, and of movements of those yields in the recent past. Technological shocks did not lead to convergence of yields; evidently the improved information about the differences in government finances enabled investors to price debt instruments with greater precision and differentiation. It took an institutional shock, a change in monetary rules, to homogenize the pricing of these debt instruments.

What were the effects of this apparent market integration in the nineteenth century? What will be the effects of the apparent market homogenization now evident in the 11 countries comprising Euroland? In the nineteenth century, the government finances converged after adoption of the common monetary rule. Government deficits disappeared in the gold-standard coun-

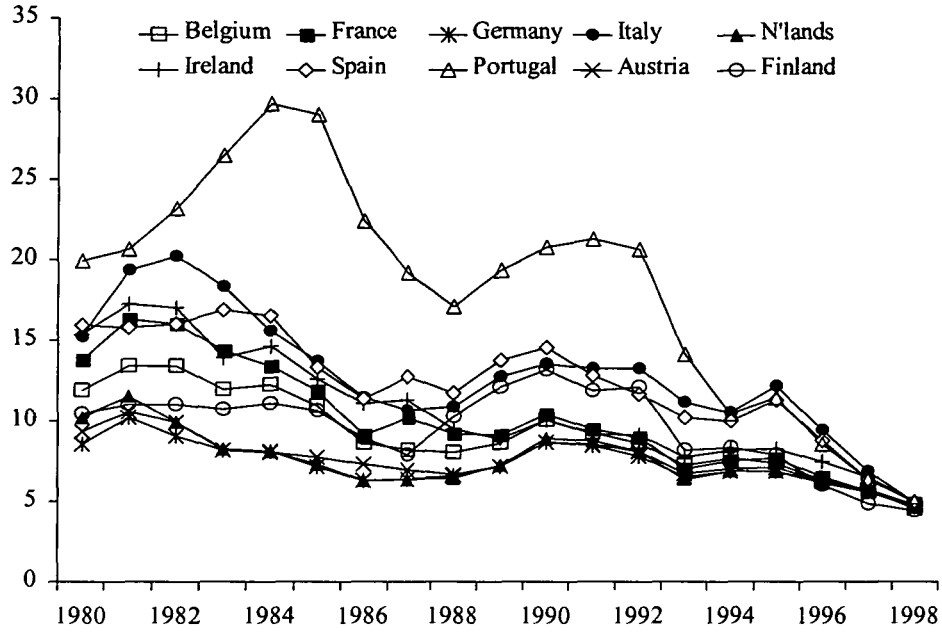

FIGURE 5
LONG-TERM INTEREST RATES, "EUROLAND," 1980–1998

Source: OECD, *Economic Outlook.*

tries while they were sustained in the fiduciary standard countries or reappeared quickly there in response to external shocks. But the asymmetric shocks experienced by the gold-standard countries had to be expressed along some other dimension if they could no longer be measured by our lone seismograph with its sensors located in the stock exchanges of Paris, London, and New York. As the work of Michael Bordo has shown, fluctuations in real income were exacerbated even though the rate of growth of per capita income remained positive on average.[13] These shocks, in turn, had predictable and measurable effects upon migration movements, unless they were mitigated by protective tariffs and restrictive trade regimes, as Kevin O'Rourke and Jeffrey Williamson have shown.[14]

Will the same phenomenon occur among the Euroland Eleven? Almost immediately after the convergence of yields on government bonds, the individual stock exchanges began to diverge in their pricing of equities. The short-run growth experiences of the member countries, already diverging before the complete adoption of the euro while exchange rates were maintained close to the agreed central par rates among participants of the Euro-

[13] Bordo, "Bretton Woods International Monetary System."
[14] O'Rourke and Williamson, *Globalization.*

pean Monetary System, have continued to diverge in the past year. The new entrants to the gold-standard club in the nineteenth century always had an escape clause, usually stated explicitly, so that foreign investors would know when to expect suspension of gold convertibility. One searches in vain for such an escape clause in the foundation of the European Central Bank. Everything has been predicated on the need to lock in member governments to giving up both the ability and the need to exercise monetary independence. When it collapses, it will come as a shock, much like the collapse of the Bretton Woods system in 1971. The consequences cannot be foreseen as the date and cause of the collapse cannot be foreseen. But economic historians will serve a useful function by studying the results of previous collapses of monetary regimes constructed by pooled sovereignty.

INFORMAL INSTITUTIONS

Much attention used to be given to the role of religion and the rise of capitalism and the Protestant ethic and capitalism, and these issues are raised again by David Landes in his best selling work, *The Wealth and Poverty of Nations*.[15] The role of dissenters—such as Quakers in England, Campbellites in Scotland, Anabaptists in Germany, Huguenots and Jansenists in France, Reform Jews in the Netherlands, Mormons in the United States—the list goes on—from established or orthodox religions seems important for encouraging the adoption of new ideas in the economic sphere, ideas that may lead to economic advance. Certainly their ideas come as shocks to the existing ideological structure and the established order. If tolerated, they can create crevices in the institutional framework that allow the encroachment of new methods and techniques. These may lead to sustained economic growth, especially if they are subject to the competitive forces of other dissenter sects, as occurred in the Netherlands in the late seventeenth century and in England in the eighteenth century. The shock of widespread secularization on the European continent during the Napoleonic period and the eventual toleration of numerous (and powerless) sects were certainly key factors in stimulating modern economic growth wherever secularization could be sustained.

This insight, however, fails to explain the differential economic success of the transition economies that emerged from the command economies directed by Soviet Communist ideology and are now trying to become mixed market and directed economies like those in western Europe. Poland, almost exclusively Roman Catholic, has proven to be the most resilient and robust of the transition economies while the heterogeneous mix of religions in the Czech

[15] On religion see Tawney, *Religion*. On the Protestant ethic see Weber, "Protestant Ethic."

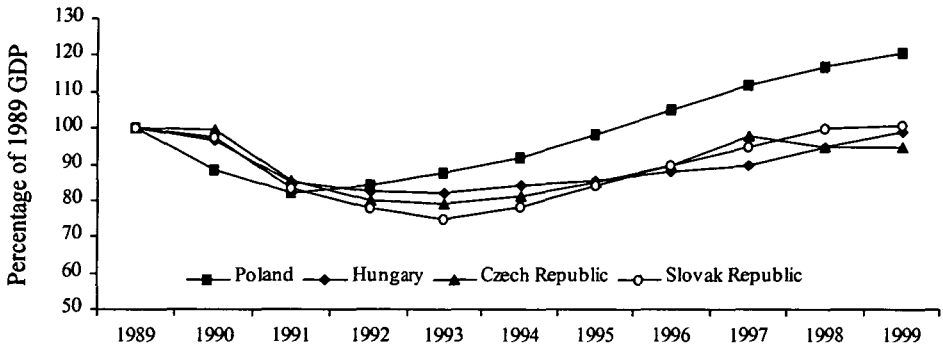

FIGURE 6
GDP IN TRANSITION

Source: EBRD, *Transition Report*.

Republic has not offset a tendency to go very slowly and even retrogress in comparison to the other transition economies. (See Figures 6 and 7.) Orthodox Christianity, with its national patriarchs, has not proven beneficial to Romania or Bulgaria either. In our current circumstances, the extensive links of the Polish Catholic religion with co-religionists in western Europe and North America provide the Polish economy with a set of shock absorbers that has allowed it to adopt Western technology and encourage capital imports from the west much more readily than its less homogeneous neighbors.

It is instructive to compare the economic performance of various religious groups in response to shocks rather than merely compare them over longer periods of "normal" accretionary growth. For example, the confrontations of the Aztec and Incan religions with that of the Spanish conquistadores in the sixteenth century can be contrasted with the prior confrontation of Christian Europe against the expansion of Islam in the Middle Ages. The role of religion in establishing and especially maintaining the legitimacy of the governance structure in any society tends to be overlooked in this secular age. The very word, religion, derives from the Latin *religare*, to tie together, and the exercise of religion has been an extraordinary force for the cohesion of people and the eventual metamorphosis of their societies and economies.

SUMMARY

Geology is known among natural scientists as an historical science. Like astronomy and oceanography, geology is not, and cannot be, a laboratory science. Despite this, all three sciences have made revolutionary advances within my lifetime in their understanding of the earth, sea, and space. The bedrock of the success for each science has been the excitement generated

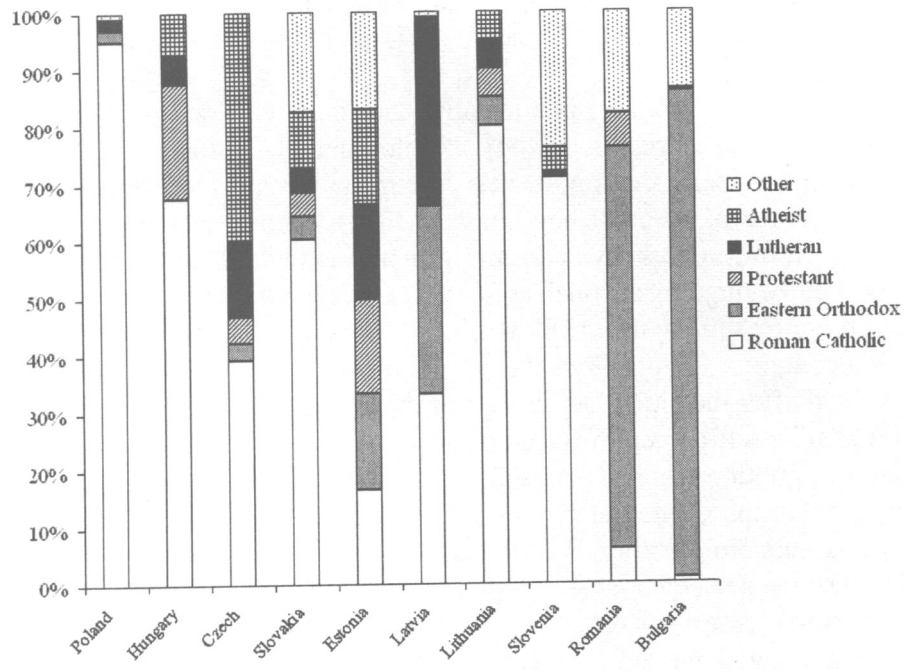

FIGURE 7
RELIGIONS IN TRANSITION ECONOMIES

Source: www.ocdi.gov/cia/WorldFactbook.

by the continued collection of new observations in the field, using the new technologies available for collecting and analyzing data from their respective domains. The facts amassed have overwhelmed the existing theories in each field, as any one solid fact will trump any and all theories that cannot subsume that fact. All three of these scientific fields have effloresced just in the past two generations by recognizing that truth. What sustains these scientists in their arduous and time-consuming search for facts is their common fascination with shocks. The desire both to explain the shocks and to comprehend their consequences has reinvigorated their entire fields. The theorists—astrophysicists in astronomy and geophysicists in geology—are busily embarked upon entirely new research agendas created for them by the work of their empirical colleagues.

Our discipline typically looks at the background conditions that govern the constraints under which economies operate, so we are usually interested in the long-term changes that occur gradually and by insensible degrees. Therefore, very long runs of data or historical circumstances are necessary for us to detect changes; but when we present the results of our research it is very easy for our colleagues and especially policy makers to ignore us

because they are interested only in the here and now, the immediate, pressing problems that confront them, not the longer term consequences of their hasty actions.

It used to be thought, incidentally, that only very long-run, gradual changes were occurring in geology. The notion that California was moving northward to really mess up God's country in Oregon, for example, was usually stated in terms of how many inches a century it would move on average. It turns out that when California moves toward Oregon, it does so episodically, lurching as much as 20 feet at the surface when it yields to the tectonic forces many miles below.

If economics is to regain the place among the social sciences that it achieved after the Great Depression of the 1930s and World War II, it has to regain its self-perception as an historical science and has to shed its current presumption that it is primarily an exercise in applied mathematics. In doing our grubby, time-consuming, and oft-disdained empirical work, however, we economic historians would do ourselves and the economics profession, and the society at large, a big favor if we focused an increasing share of our research efforts on shocks, rather than longer periods of "normal" change. Studying the shocking episodes in human history that have deflected human efforts from their normal pursuits, destroyed lives, dissipated wealth, and demoralized generations-to-come should yield insights into the shock-absorption capacities of different economic structures. And the global economy of the twenty-first century appears already destined to reverberate shocks that occur anywhere on the planet to the rest of the world. Too much of our efforts as economist historians has been devoted to periods of "normal" economic activity undisturbed by wars, epidemics, famines, natural disasters, or depressions. And our empirical findings, unfortunately, have been only too reassuring to our theoretical, a-empirical colleagues in their commitment to a "stylized fact" of a stable, equilibrium-seeking, self-contained economic mechanism that rules our lives. By avoiding precisely those episodes that upset the state of economies, we also avoid the possibility of surprising our colleagues with any of our findings. If we cannot surprise them, we cannot get their attention, and then we cannot enlighten them, which is too bad because we need their help if we are to have an impact on the rest of society.

The capacity to be surprised by anomalies, outliers, and curiosities is our great flaw according to our economist colleagues; I assert that it is our great strength and we should play to our strength, not the prejudices of our colleagues. As an editor and a writer both, I am struck by the predilection of economic historians to present their work much in the form of a detective mystery—presenting first a puzzle, then musing about the logical ways to unravel the puzzle, describing various clues, often discarding them after

loving, discursive attention, and finally reaching a tentative conclusion at the very end, but hastening to assert the need for further research. Equally striking, but disconcerting to me, is the common reaction of most economist referees, who insist that any article to be worth publishing has to follow the standard format of a lab report—present the underlying theory, describe the results of previous experiments, present the current hypothesis, describe the experimental apparatus used, summarize the results, relate them to "the literature." They want us to imitate a laboratory science, in other words, not a detective novel. My suggestion to both the economic historian and the economist is that we should try, instead, to emulate an historical science. The example of geology should inspire us in this endeavor.

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