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Chapter Authors: James A. Robinson

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Comment

James A. Robinson, Harvard University

I. The Argument

The paper by Diego Comin and Bart Hobjin presents a very interesting and important analysis of the factors that put OECD countries onto a new growth path after 1945. The authors, building on previous work by others, are convincing that the rapid growth after the Second World War was driven not by simply neoclassical convergence but rather by total factor productivity increases and more specifically technology adoption. This argument is particularly important in explaining why countries such as Germany and Japan did not simply converge back to their old growth path but moved onto a new one with higher steady-state growth.

The authors present a model for this based on the idea that it was the technical assistance elements of the Marshall Plan introduced in 1949 (1955 for Japan) plus industrial trainees that visited the United States between 1949 and 1969 that explain this change in the pace of technology adoption. Their motivation for this is not to use this as “a” source of variation in technology adoption in order to estimate an instrumental variables model of the impact of technology adoption on growth. The reason is that they accept that it is impossible to exclude this technical assistance from the growth equation. Instead, they argue that this is “the” main explanation for the rapid increase in technology adoption. Their regressions show that assistance was particularly important for “new technologies” (aviation, cars, electricity, radios, telephones, and trucks) and not “old” (railways, steamships and motor ships, and telegrams) and argue that this makes some alternative institutional thesis untenable.

II. Questions

Though I found the paper very interesting, there are a number of issues that I find puzzling. First, I wondered what the data on assistance were

capturing. Consider Japan. After the Meiji Restoration in 1868 the Japanese government sent many students overseas and made a very sustained effort to adopt modern technology by visiting other countries and inviting foreigners to help them. The man who was to be Admiral Isoroku Yamamoto, for example, mastermind of the Japanese attack on Pearl Harbor in December 1941, even studied at Harvard University in the 1920s. Yet the paper codes 1955 as the date when the significant assistance to Japan begun. This tension even comes out in the paper since the authors discuss the 1950 visit of two leading executives of Toyota Motor Company to the Ford Motor factory. But this date is prior to when technical assistance began and obviously has nothing to do with it. Rather it represents part of the long post-1868 process of trying to adopt better technology. The year 1955 is too late to explain Japanese postwar growth. More important, given what was going on before the war, the authors need to compare, for example, the number of trainees in 1949–69 with the number before World War II to see if the change in the number of trainees can explain the change in the growth path.

Second, technical assistance from the United States did not start in 1949 either. For instance, the Princeton economist Edwin Kemmerer under the auspices of the U.S. government extensively toured Latin American countries in the 1920s and 1930s giving institutional advice. Among his many missions were two to Colombia in 1923 and 1930, which resulted in the foundation of the Central Bank and large changes in the structure of financial regulations (Drake 1988). Technology disseminated from the United States in other contexts as well, for example, during the military occupation of Haiti, the Dominican Republic, and Nicaragua. Indeed, the first direct-dialing telephone exchange in the Americas outside of the United States was built in Port au Prince by the Americans in the 1920s during their occupation of Haiti.

Third, there were a lot of things going on after 1945 other than the technical assistance on which the paper focuses that may have heavily influenced the growth of total factor productivity and the adoption of new technologies. For instance, in 1944 at the Bretton Woods conference, the World Bank was created. The first loan it made was \$250 million to France in 1947, though the U.S. government allowed the money to be dispersed only after Communist legislators had been removed from the government. The second loan was \$195 million for the Netherlands and the third was for Denmark. The striking thing about all these loans is that they are an order of magnitude larger than the sums of money involved in the Marshall Plan, and they were going to the same countries.

In addition to financial flows, the postwar world led to significant changes in the social contracts of the countries that experienced much higher economic growth. As Titmuss (1958) pointed out, there is a strong correlation between wars and changes in the social contracts of countries, for example, changes in the extent and form of income redistribution. Wars also have large consequences for political institutions, particularly democracy (Acemoglu and Robinson 2006). It is clear, therefore, that there are a lot of things going on after 1945 that might have had a positive effect on economic growth and that are highly correlated with Marshall Plan aid and technical assistance. This does not exhaust the extent of dramatic institutional changes at the same time, for example, the rise of socialist parties everywhere in Western Europe. The year 1945 was the first time the Labour Party had a majority in Britain, and this government introduced nationalization, large changes in labor market institutions, and compulsory secondary education for the first time. Indeed, some argue that this led to a new social contract between capital and labor: part of what Barry Eichengreen (2007) has called *Coordinated Capitalism*.

III. The Altruistic United States?

The paper implicitly presents a rather odd theory of technological dissemination. First, there is the United States, the world technology leader. Then there are the other countries that are inside the world technology frontier. Rather than maximize profits, national income, or anything else, the United States then gives away its technology. One might ask who gave it away? Was the Ford Motor Company happy to freely give away its technology to potential competitors? Or was it the U.S. government that forced it to do so? If so, what instruments did it use? Why did only some countries get this assistance, and what explains the timing? After all, General Douglas McArthur in his role as Supreme Commander of the Allied Powers attempted a massive reengineering of Japanese institutions in the 1940s that included rewriting the Constitution and agrarian reform, but technical assistance comes in 1955.

There is no discussion of why the United States so generously gave away its technological advantages. The obvious explanation is that this has something to do with the "Cold War" with the Soviet Union, but to recognize this introduces a whole series of important questions. After all, geopolitical competition and the threat of warfare have been argued to be important drivers behind technological change and the development strategy of Taiwan and South Korea, so why not Western Europe

after the war as well? It seems that it would be useful to place the results of the paper within the broader context of the likely channels via which the Cold War might have influenced postwar growth.

The attitude of the British government during the first industrial revolution was very different. From 1780 until 1842, exports of textile machinery were illegal, and the state tried to stop skilled workers from emigrating (Daunton 1995, chap. 18). Like the United States during the Cold War, Britain was heavily involved in conflicts all over the world and cooperated with allies such as the Dutch to defeat the French. To my knowledge, however, the British never gave away their technology to the Dutch or anyone else. Quite the contrary.

Finally, the notion of the altruistic United States needs to be evaluated in the context of many other pieces of information. With regard to the U.S. occupation of Haiti, the Dominican Republic, and Nicaragua, it is clear that this was not motivated by altruism, but rather by the desire to collect debts and perhaps create pliant markets for U.S. goods. Indeed, the subsequent politics of the latter two nations was dominated by the dictatorships of two men, Rafael Trujillo and Anastasio Somoza, who rose to power thanks to the U.S. intervention, a situation the United States seems to have been perfectly happy with even if it did not actively create it. More generally, in the postwar period, the United States was quite content to overthrow democratic regimes and support authoritarian and coercive ones (Berger et al. 2009).

IV. An Alternative Hypothesis

All in all I find myself unpersuaded by the claim that technical assistance can have played such an important role in the postwar OECD growth miracles. I do not really see that the assistance offered by the United States after the war was so large or distinct from other types of similar assistance that it can have caused such a huge differential economic effect. Though it is possible that this assistance was qualitatively different because of the Cold War and the self-interested desire to rebuild Europe, there must be a significant concern about omitted variable bias in estimating the impact of measured assistance on technology adoption. The Cold War could have had many different effects on growth.

What might then explain them? A plausible alternative hypothesis was advanced by Mancur Olson in his book *The Rise and Decline of Nations* (1982). Olson argued that the rapid growth experienced by many Western European countries after World War II occurred because the war destroyed “distributional coalitions” that had previously blocked

innovation and new technology adoption. I think that it is quite clear that this was the case in Germany and Japan. I also do not believe that the distinction between old and new technologies is evidence against the institutional view. It is those with specific investments in old technologies that would precisely attempt to block the development of new technologies.

Of course it is difficult to distinguish the technical assistance model proposed by the authors from an institutional one along the lines of Olson. To do so would require a more disaggregated analysis examining the extent of war damage to different sectors to investigate if sectors that experienced more war damage grew relatively faster. Though this would be a very imperfect proxy for the extent to which distributional coalitions were broken up, if this were true, it would certainly be consistent with Olson's model.

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