

Economics in America: the Continental influence

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I

In the 1940s the United States assumed leadership in numerous fields of intellectual endeavor ranging from theoretical physics to music. In the sciences the centers of research and advanced graduate training moved across the Atlantic, making the U.S. in many fields the only place to go to obtain up-to-date doctoral training. Although American dominance of the immediate postwar years faded to some degree, American preeminence in economics has remained. In the thirties economists had looked to England for leadership. Yet the postwar "landslide of invention" (Shackle 1967) has been an almost exclusively American affair. Since 1969 when the Nobel Memorial Prize was inaugurated no fewer than 14 of 22 recipients either were American-born or had spent the better part of their careers at American institutions. What accounts for this shift? Certainly, during the critical phase of this transition, the United States was increasing the financial resources poured into the universities and into research. But while the tremendous growth in resources may have been a necessary condition explaining America's rise to eminence, it is not a sufficient one.

In other disciplines, a fairly extensive literature has developed on the intellectual migration during the interwar period. While numerically insignificant against the unhappy background of all the major population displacements of this century, the transfer of some of Europe's leading intellectuals to this side of the Atlantic has been commonly recognized as instrumental in the rapid reversal of Europe's and America's roles in a great many spheres of intellectual endeavor. In economics, it has not been so recognized. Yet the results of the intellectual migration have been no less significant for the history of our discipline than for physics or mathematics. Since 1948, when Joseph Schumpeter was elected President of the American Economic Association, ten presidents of the Association have been of European birth, eight were established scholars before coming to the United States, seven of these from continental Europe (Schumpeter, Gottfried Haberler, Fritz Machlup, William Fellner, Wassily Leontief, Jacob Marschak, and Tjalling Koopmans), and two of the latter (Leontief and Koopmans) have been recipients of the Nobel Memorial Prize in Economics.

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This hardly begins to measure the role that this select group played in bringing about American predominance in economics. There is scarcely a major field in economics that has not benefited from the innovative talents of the immigrants. Econometrics? Abraham Wald and Gerhard Tintner. Mathematical economics? John Von Neumann and Oskar Morgenstern, Nicholas Georgescu-Roegen, and Leonid Hurwicz. Public finance? Richard Musgrave. Economic history and the history of thought? Alexander Gerschenkron, Carl Landauer, and Karl Pribram. Development? Albert Hirschman, Bert Hoselitz, and Paul Rosenstein-Rodan. International economics? Tibor Scitovsky and Robert Triffin. And this is just a partial list, for we have not mentioned those whose contributions do not fit neatly into these conventional categories, such as the Marxist-influenced theorists Oskar Lange and Paul Baran, and the researcher on consumer attitudes. George Katona. And what about those who like Gerhard Colm made their most important contributions as policy advisers within the government bureaucracy? Or the men and women who worked under Simon Kuznets at the National Bureau for Economic Research? In all, one might draw up a list of some fifty persons trained first in Europe who by choice or force of circumstance emigrated to the United States during the thirties and who by their achievements and distinction enriched American economics at a critical juncture.¹

Europe's loss exceeded America's gain. The damage that totalitarian regimes did to so many old and distinguished centers of learning is by no means to be measured by the talent that escaped. There is also to be considered the persecution of those who stayed, the suppression of free inquiry, and the thorough subversion of the ancient ideals of a university. Above all, there looms the loss which we will never measure—that of the yet-to-be-developed talent that went to the gas chambers.

The damage done to European intellectual life means that the American predominance in economics after World War II would have come about even without the immigrants. Moreover, those who were to release the "landslide of invention"—Paul Samuelson, Milton Friedman, James Tobin, Kenneth Arrow—were here, waiting in the wings, ready to burst onto the stage.

America's gain, however, was surely considerable. The list of fifty-odd distinguished immigrant economists carries conviction by itself. The American economics profession was far, far smaller before World War II than today. Could it have mustered fifty homegrown economists of the same generation to match, heavyweight for heavyweight, the immigrants in enduring reputations? Probably so—but not all that obviously so. What

1. We have excluded those intellectual immigrants who had their graduate training in the United States. A broader definition would add a number of illustrious immigrants to our list from Simon Kuznets to Franco Modigliani.

is obvious in any case is that the influx of Continental scholars was quantitatively significant and helped many American universities to build graduate programs of distinction. But what was their impact on economics in America?

Economists with an interest in the history of their subject are used to tracing the dissemination of ideas through books and journals. To assess the significance of the direct transmission of ideas through the physical movement of people is certainly a less routine task and a seemingly more difficult one. One cannot depend on having a clear trail of footnotes to follow.

In the interwar period, communication between the various schools was still highly imperfect, and traditions in economic theory and styles of research diverged quite a bit more than what we are used to today. At European centers such as Vienna or Heidelberg, moreover, the intellectual concerns of the local philosophers, historians, or sociologists could often exert more of an influence on one's work and outlook than those of economists in distant Cambridge, Stockholm, or Harvard. Many of the immigrants had seriously pursued intellectual interests outside economics—and their 'outside fields' were not always mathematics or statistics. Hayek had done work in physiological psychology, and Koopmans and Hurwicz in physics, for example; and one can find traces of this early training in their later work. Considerable knowledge of the epistemological and methodological issues debated at the time, for instance, among the philosophers of the Vienna Circle was almost a common denominator for these European academics.

It was not, however, the transplantation of the European 'schools' that injected the Continental influence on economics in America. There were only a couple of instances where this seems to have been attempted. Gerhard Colm, Adolph Lowe, and Hans Neisser from the Kiel World Economics Institute all arrived at the New School of Social Research, and Mises formed a new seminar in New York patterned after his well-known and influential *privatseminar* in Vienna. On the whole, however, those immigrants who tried to maintain their distinctly European scholarly identity appear to have been less influential on the development of the profession in America.

Rather than a story of the transplantation of schools, in fact, the immigration is an important part of the story of how these traditions from various centers of learning came to lose most of their distinctiveness and to merge into a single international 'mainstream' economics. It was the individuals who took readily to the American scene, rather than those who thought of themselves as members of a University in Exile, that did the most to bring this about.

The immigrants who were to become most productive and recognized

for their contributions in later years were those who adapted well to the United States and did not remain outsiders very long, but became basically American economists relatively quickly. By the same token, their rapid assimilation into the American economics profession makes their overall contribution difficult to define. It does not bear the stamp of the immigrant-outsider. One feels that, collectively, their diversity in terms both of economic traditions and of interdisciplinary interests enriched American economics significantly in the period when it was becoming internationally predominant; that they enlarged the genetic pool of ideas and insights that 'mainstream' economists have been combining and recombining ever since.

That, however, is such a diffuse generalization that one hardly knows how to muster evidence to support it or contradict it. To get beyond such speculative reflection one has to look at the histories of the fields in which the immigrants tend to cluster. Two such clusters are apparent. One is in development economics, and particularly Latin American studies. The other is in mathematical economics and econometrics. The remainder of this article will deal with the latter—although here only a part of that story can be told.

II

When American economists look back to the thirties, they tend to regard it as a period when the leading ideas were produced in Britain: Keynes' *General theory*, Robinson's *Imperfect competition*, Hicks's *Value and capital*. But in the scientific interplay between Europe and the United States, there was one crucially important area in which the Continent, and more particularly Germany and Austria, held up the European end, namely, the 'quantification' of economics or what we may call the Econometric Society movement.

The Continental contribution towards making economics the quantitative empirical discipline that it became in the era of American predominance began decades before the emigration of the interwar period. In the nineteenth century, two developments had combined to give the Germans an early lead in empirical research. First, there was the Prussian bureaucracy: well-trained, efficient, and hungry for factual information upon which to base state policy. Ernst Engel, known to us for Engel's law, was, in fact, Director of the Prussian Bureau of Statistics and primarily an administrator who, together with his assistant August Meitzen, ran an important fact-gathering, statistical 'shop' (Schumpeter, 961; Dorfman, 23). Second, there was the Historical School that dominated the teaching of economics at the university level and rejected the form of deductive reasoning that had characterized classical economics. The 'younger' Historical School associated with the name of Gustav Schmoller was especially

well-known for encouraging German students of economics to gather series of historical and quantitative data going as far back as either sources or resources allowed. To many young Americans in the 1870s, '80s, and '90s, it was German scholarship that offered something new. Charles Dunbar, the first man to hold a chair in Political Economy at Harvard and the man most responsible for originally building that department, expressed his opinion in 1879 that the lead in economics had passed from England and France to Germany (Dorfman, 22). His opinion was shared by a number of students who chose Germany as the place to get their advanced training. Richard Ely, John Bates Clark, Henry Carter Adams, and E. R. A. Seligman—all of whom played important roles in the formation of the American Economic Association and served as presidents of the young organization—had studied in the German universities. So too had Roland Falkner, who taught statistics at the Wharton School (Pennsylvania), Richmond Mayo-Smith, who himself trained a younger generation of researchers devoted to the inductive method, and another man who would become president of the AEA, the economic historian Edwin Gay (Dorfman; Coats 1960 and 1964).

Gay's personal history is linked in an unusual way to the importation of German inductivism and reexportation of its American version in the twenties. When Gay took up his first appointment at Harvard in 1902, his qualifications included an undergraduate degree from Michigan, where he first came into contact with the inductive approach championed by the philosopher of American pragmatism, John Dewey, and *twelve* years of postgraduate study in Germany. The most formative years of this German period Gay spent in the seminar of Gustav Schmoller. He would make Harvard "one of the two or three best places in the world for the systematic study of economic history and the training of economic historians," in Herbert Heaton's opinion (Heaton, 2). In 1908 President Eliot picked him to be the founding Dean of the Harvard Business School. Eliot's choice rested on more than his gauge of Gay's administrative talent. Gay's research on the enclosure movement had demonstrated his familiarity with statistical data and inductive methods.

In 1914 a trustee of the Rockefeller Foundation turned to the patrician Gay for advice concerning its prospective entry into the social sciences. Gay's recommendation reveals the kind of link that had grown out of the merging of the German tradition of historical scholarship with American pragmatic concerns. Gay recommended that the Foundation finance a series of large-scale data-gathering projects on the history of prices, wages, gold production, etc.—and he suggested, as the man to lead the project, the recent author (1913) of a well-received book on the business cycle, Wesley C. Mitchell. Such plans were shelved during the war as both Gay and Mitchell found their way to Washington, where both used their 'statis-

tical' training to solve logistics problems on both the war and home fronts. But in 1920, with the help of Malcolm Rorty, who raised funds in the business community, the National Bureau of Economic Research came into being. Gay would serve as the NBER's first president from 1920 to 1933, and he would be codirector of research with Mitchell from 1924. The NBER would become a major recipient of Rockefeller assistance when the Foundation entered the social sciences in the twenties.

Mitchell had learned from his former mentor John Dewey that "there is no way of deducing from certain principles what they [consumers] will do, just because their behavior is not itself rational. One has to find out what they do. That is a matter of observation, which economic theorists had taken all too lightly."² The first studies of the NBER tried to answer this problem with the eventual aim of turning economics into a true science. Shortly before leaving his war work in Washington, Gay reported:

Mitchell asked me if I thought economics could ever be made a true science, and I told him that I sincerely believed it possible, but it would take some fifteen or twenty generations more of hard and painstaking work and the accumulation of a long series of statistical studies for five hundred years or more before the base line is long enough to make statistical deductions from social measurements [Heaton, 196].

(Gay later would sell the Rockefeller Foundation on a large-scale international project that he would guide together with Lord Beveridge on the history of prices and wages in a number of countries.) Such data gathering had an ultimate aim: to achieve a science capable of prediction; to give the 'social engineer' sufficient data upon which to base his policy suggestions. While Mitchell approached his task in the spirit of the purist, refusing to tie the work of the NBER either to business forecasting or to commissioned government studies, there were other data-gathering research outfits that profited from business support. The best-known of these was the Harvard Economic Service organized by Charles J. Bullock and run by Warren Persons—a business cycle research and forecasting concern that attracted favorable international attention and served as the model for similar business cycle institutes financed by the Rockefeller Foundation in Europe. Similarly concern with cycles in the agricultural sector resulted in the development of agricultural economics and one of the first departments of statistics in the United States at Iowa State College (Ross, 328–30; Arthur, 18–20).

By the 1920s the United States had taken the lead in developing empirical studies in the social sciences. The strict inductivism of the German

2. Wesley Mitchell to John Maurice Clark, 9 Aug. 1928; in L. S. Mitchell 1952, 95.

Historical School had been tempered—somewhat. To Mitchell “the problems one could really do something with in economics were problems in which speculation could be controlled”³ (though, one infers, still allowed). Where Americans had once been impressed by inductive methodology in Germany, it was now the visitor from Europe who expressed his admiration. Friedrich Hayek, who spent a year in the United States during the early twenties, where he visited Harvard, attended the lectures of Mitchell at Columbia, and worked as a research assistant to J. M. Jenks, described his reaction to American economics:

I had found the state of economic theory there very uninteresting. But I was interested in the empirical work on business cycles done at Harvard Business School and the National Bureau. What I had learned were such elementary things as eliminating trend and seasonal factors from time-series.⁴

On his return home, Hayek would start the Institute for Trade Cycle Research in Vienna, the first of many similar institutes that would receive substantial support from the Rockefeller Foundation.

After the war, it was now the Americans who found European scholarship on the Continent too ‘speculative’ and woefully inadequate in empirical methodology and research. During their tenures as directors of the social science division of the Rockefeller foundations, Beardsley Ruml and Edmund Day set about reexporting Schmoller’s inductivism in updated pragmatist American dress. The Foundation tried to do this in three ways: (i) through a generous fellowship program that would bring promising European scholars into contact with American scholarship; (ii) through the financing of business cycle research institutes and certain university programs; and (iii) through the financing of broad-ranging comparative international studies such as the price studies guided by Beveridge and Gay.

The fellowship program brought promising scholars into contact with the best America had to offer in both teaching and research; it also established networks of friendship that would prove crucial when economic circumstance or political conditions made emigration necessary. Gerhard Tintner, Oskar Morgenstern, Fritz Machlup—these are only a few of the names that come to mind in this context.

In financing the institutes with which Ragnar Frisch and Jan Tinbergen were associated in Oslo and Rotterdam, respectively, the Rockefeller Foundation gave impetus to the development of more advanced econometric work. Smaller grants of this sort went to the Austrian Trade Cycle Institute, where Oskar Morgenstern, a former Laura Spelman Rockefeller Memorial fellow, succeeded Hayek as director, and the research institute

3. From a 1928 letter by Mitchell quoted by Lucy Sprague Mitchell 1952, 95.

4. Interview with Hayek, 17 June 1976.

in Heidelberg where Jacob Marschak was employed. American money in the form of foundation support was, in effect, responsible for turning the mathematical talents of Abraham Wald to the analysis of statistical data, since his first regular employment was at the Austrian Institute. It was also through a Rockefeller fellowship that another principal in this story, the Vienna-trained Gerhard Tintner, first came to the United States. And Rockefeller money flowed in substantial amounts to the Kiel Institute, where Hans Neisser and Wassily Leontief, under the direction of Gerhard Colm, tried to apply methods of statistical inference to the trade data collected at the Institute. Finally, Rockefeller money was an important factor in the creation of the Institute of Statistics at Oxford, where, after Hitler's coming to power, Marschak would find refuge and employment (Craver 1986b).

The dismal job situation in the twenties and thirties in Europe (one thinks here especially of Austria) had begun to draw off the best talent to jobs elsewhere: Hayek to LSE; Rosenstein-Rodan to the University of London, and so on. But it is difficult to break one's ties to country, friends, and family, and the brain drain, we are certain, would have been a slow process had it not been for the policies of the Nazi regime.

III

The seed money that the Rockefeller Foundation had spent on encouraging empirical research in Europe came to intellectual fruition in the 1940s, but the harvesting took place in the United States. The reflux of the empirical orientation to economics came across the Atlantic with an intellectual vigor that was to transform the empirical tradition in American economics. The names of former Rockefeller fellows are prominent among the immigrants, and the names of the institutes that, in varying degree, had received Rockefeller support crop up now as their points of departure.

The main actors did not all immigrate. Frisch and Tinbergen had to spend the war years in their German-occupied home countries—Frisch in a concentration camp. But Haavelmo came from Oslo and Koopmans from Rotterdam. Wald and Tintner came from Vienna, and the central figure, Jacob Marschak, from Heidelberg by way of the Oxford Institute of Statistics. These, of course, are the names associated with what Martin Beckmann has called the "heroic age of econometrics"⁵ at the Cowles Commission.

The transformation of the empirical tradition that the coming of age of econometrics brought about inhered in its fusion of mathematical eco-

5. Martin Beckmann used the phrase in addressing the Heidelberg faculty on the occasion of Jacob Marschak receiving the honorary doctorate from his old University, 13 July 1968.

nomic theory and statistical inference. This, indeed, was the intent boldly proclaimed by Marschak in his now famous research program announced in the Cowles Commission Annual Report for 1943, his first year as research director.⁶ For some time before coming to Cowles in Chicago, Marschak had led an informal seminar on econometric problems in New York with Haavelmo, Koopmans, and Wald among the participants, and he probably had a good idea that the time was ripe for the bold program to be realized. The fusion came in two stages. It required, first, finding a method of statistical inference for systems of simultaneous equations. The breakthrough on this front was Haavelmo's (Haavelmo 1943 and 1944). It involved, second, showing that empirical work required a theoretical framework—that "measurement without theory" was a self-defeating method. The work at Cowles, led by Koopmans, on identification problems and the use of a priori information to resolve them, eventually convinced most of the economics profession that inductivism was untenable.⁷

When Cowles began in 1932 it used the motto "Science is Measurement." In 1952, in belated acknowledgment of what its influence had in fact been, the motto was changed to "Theory and Measurement."

The Cowles Commission during Marschak's tenure as research director (1943–48) is the natural focus of this story. But the Continental influence on empirical economics was a broader development over a longer period involving more people. The successive volumes of *Econometrica* and the *Review of Economic Statistics* through the 1930s and 1940s reflect it very clearly.

Why did the Europeans play such a prominent role in this particular development? We venture two related hypotheses in partial explanation. First, it appears that those Europeans may have been readier than those Americans to take the physical sciences as the epistemological model for a 'scientific' economics. Second, some of them at least saw the combination of mathematical specification and statistical confirmation as a bulwark against the intrusion of political ideologies into the social sciences. For the immigrants who had lived through the interwar period in Europe—and some, like Marschak, had fled first Lenin and then Hitler—this hope of building a *wertfrei* social science, immune to propaganda of every kind, gave motivating force to the econometric movement.

One of us (A. L.) remembers standing with Jacob Marschak on the fringes of a UCLA anti-Vietnam demonstration, watching as the police tried none-too-gently to break it up. "I, too, feel like them that this war is

6. For a fuller account, cf. Carl Christ's (1952) history of the first twenty years of the Cowles Commission and also his recent article (1985).

7. For example, Koopmans 1947 "Measurement without Theory," of course, was the title of Koopmans' famous attack on the National Bureau method in his review of Burns and Mitchell, *Measuring business cycles*. Koopmans' review and the subsequent exchange with Rutledge Vining is in *Review of Economics and Statistics*, 1947 and 1949.

terrible," said Jascha, "but, you know, I still think it is important that we strive always to keep value judgments separate from our work." We might not be able fully to achieve it, he added, but *Wertfreiheit* remains an ideal.

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