

Eminent Economists II

Their Life and Work Philosophies

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No bird soars too high, if he soars with his own wings.

William Blake

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Order in and through Disorder: The Invisible Hand as a Turbulent Regulator



Anwar Shaikh

ORIGINS AND EARLY INFLUENCES

I was born in 1945 in Karachi, Pakistan, two years before the partition of India. My early years were spent in Karachi, but after my father joined the Pakistani Foreign Service in 1948, I also lived in Ankara, Washington, DC, New York, Lagos, Kuala Lumpur, and Kuwait. I received a BSE from Princeton University in 1965, worked for two years in Kuwait (as an engineer and as a teacher of social science and physics), and returned to the United States to study at Columbia University, from which I received my PhD in economics in 1973. In 1972 I joined the Economics Department at the Graduate Faculty of the New School for Social Research, where I am presently employed.

My mother was a Christian from the south of India, and my father was a Muslim from the north. Both were educated and well read, and believed in

social and gender equality. My father was an articulate speaker with a wry sense of humor, and my mother a gifted teacher with an ear for language. They made sure that my sister, brother, and I were very well schooled and taught us the importance of self-reliance. I spent my early years in an apartment building occupied largely by various members of my father's extended family, ranging from grandparents to toddlers. My favorite grand-aunt was English. Once my parents began to travel on various postings, I moved from country to country and school to school. I am told that at the age of six I briefly attended a French school in Ankara but was somewhat handicapped by the fact that I did not speak a word of French. A transfer to a one-room schoolhouse run by an Englishwoman solved that problem. When I was in Catholic secondary school in Karachi my best friend was Zoroastrian, in high school in Washington, DC, my best friend was Chinese American, and in Stuyvesant and Princeton my best friends were Jewish. I did not actually notice any of this at the time. It seemed normal.

After I graduated from Princeton in 1965, I went to Kuwait to live with my parents. I worked first as a clerk in a bank, then as an engineer in the full heat of Kuwaiti summer. This latter activity proved unwise, and one morning I woke up with "desert blindness." While I was recovering in a darkened room, I received an inquiry from the Kuwaiti-American School: Would I be willing to teach math, physics, and social studies to secondary and high school students? I said yes. And so it was, at the age of nineteen, that I found my calling (thereby following in the footsteps of my mother). Mr. Ebert, the extraordinary principal of the school, let me reinvent the curriculum in each of my courses. For physics and math this was not so hard, but in social studies the previous text, sanctioned by the John Birch Society, proved somewhat limited. I was forced to improvise by relying on articles and pamphlets on social subjects, sometimes found in the dusty recesses of local bookstores. Nonetheless, my classes were very well received. When I went on to graduate school in New York in the late 1960s, I lived in Harlem for some time, teaching math and social science at a newly formed school called Harlem Prep. The school had been set up through a coalition between local educators and dedicated nuns of the Catholic Church in order to work with minority students and dropouts deemed unreachable by the public school system. In the math department, headed by a gifted African American teacher called Gaywood McGuire, we were able take students from essentially zero to first-year calculus.

In my peregrinations I was fortunate to have several outstanding teachers. In Ankara at the age of six I attended the previously mentioned one-room school, in which I was given the opportunity to study at any level that

I could handle. I came to love learning, and I advanced rapidly. As a result, when I returned to Pakistan at the age of eight I was much younger than my classmates. It was at St. Patrick's School in Karachi that I had to learn to stand up to bullying. Bullies, I discovered, are mostly bluff. Still, in later years I found it useful to supplement my acquired skills by studying judo and karate.

When my parents were posted to the United States in 1958, the school counselors in Washington, DC, wisely decided that I was too young for high school and placed me in eighth grade instead. It was there that I encountered Mr. Green, who completely changed my attitude toward algebra. He was a wonderful teacher and was quick to provide positive feedback (which often took the form of candy tossed across the room). I retain a deep fondness for algebra and for sweets. When my parents moved once again, this time to New York, I was placed in Stuyvesant High School. The school is nationally renowned for its advanced science and math curriculum. However, it was in the advanced shop class that I met one of my best teachers. Under the extraordinary tutelage of Mr. Howard Natter, each one of us built our own six-foot reflector telescope from scratch, cutting and machining all parts (even the screws) and grinding the mirror to the appropriate shape and glassy smoothness. His practical lessons in engineering were supplemented with lectures on physics and astronomy. It is my recollection that a subsequent set of students was taught to build a particle accelerator. I learned from him that practice has to be guided by theory, and theory tempered by practice.

Gary Becker was a brilliant teacher, and his advanced microeconomics course in graduate school at Columbia University taught me what orthodox microeconomics was all about. I have never forgotten his presentation of his article "Irrational Behavior and Economic Theory" (Becker 1962), in which he demonstrated that major empirical patterns of microeconomic behavior can be derived without any reference to so-called rational choice. I remember excitedly going after the lecture to Low Library in order to sketch out an extended version of that type of argument. Thirty-five years later I managed to write up this material for a forthcoming book and link it to a discussion of emergent properties grounded in what the physicist (and Nobel laureate) Robert Laughlin calls the "robust insensitivity" of empirical macro patterns to the particularities of micro behaviors (Laughlin 2005). In a course taught in the Business School at Columbia I was exposed to Robert Heilbroner's elegant and exciting account of the history of Western economic thought. I was even more fortunate to subsequently become Bob's colleague in 1972 at the New School, where I now teach a course on this subject myself. At

Columbia I was also privileged to attend extremely illuminating lectures on Sraffian economics given by Luigi Pasinetti when he was a visiting professor at Columbia in 1971. Heilbroner led me to Smith, Ricardo, Marx, and Keynes, and Pasinetti to Sraffa. These have been major influences on my work ever since.

SOCIAL VALUES AND SOCIAL SCIENCE

My political awakening began at Princeton in the early 1960s. I heard Martin Luther King speak at a general forum and Malcolm X speak at a small seminar in the Islamic Studies Department. I also heard the governor of Mississippi, Ross R. Barnett, inform us that many a civilization had been destroyed by miscegenation (I recall that he cited ancient Egypt as an example). Governor Barnett had been invited by a coalition of Southern students who felt underrepresented in the discourse. I can still picture them, replete with Confederate insignia and flags, filling the first two rows of the hall.

At Columbia in the late 1960s I encountered various factions of the American Left, and in Harlem I encountered the Black Panthers and the Black Muslims (Malcolm X had been assassinated by them). And, of course, I was at the same time studying microeconomics, mathematical economics, international trade, and monetary theory. I joined the Columbia Occupation in 1968, going into Fayerweather Hall still clutching my copy of Patinkin's classic text on money. I was forced to leave it behind in the subsequent chaotic evacuation but was able to quickly buy another one from an obliging fellow student. The subject remains an abiding interest. While at Columbia I wrote to Joan Robinson and bravely asked her if she would be willing to speak to the Economics Department. On receiving an affirmative response, I excitedly rushed to tell the department chair. To my astonishment, the department originally declined to invite her but, after some pressure from students, finally acceded. When the time came, she strode into the room, resplendent in a coat given to her by Mao, having just come from conversations with Fidel. She proceeded to say sharply critical things about aggregate production functions and the marginal productivity theory of distribution. The hall was full of students. But a mandatory department meeting just happened to have been scheduled at the same time, and only two faculty members from the Economics Department attended her talk. They spent their time during the discussion period attempting to defend standard theory.

Joan Robinson's visit had quite an impact on me. On a small note, it led to my expulsion from the local chapter of the Union for Radical Political

Economics, which I had helped start, on the grounds of "bourgeois deviationism." The issue was that I had gone to the airport to meet Joan rather than attend a scheduled meeting. My censure only deepened my revealed preference. More important, while Joan was on campus, she asked me to "look into" the apparent empirical support for aggregate production functions. My wise and gifted supervisor, Ron Findlay, gave me time and space to work on this as my first seminar paper, which in turn became my first journal publication, in the *Review of Economics Statistics* in 1974. I argued there that the apparent strength of fitted production functions was a statistical artifact generated by the fact that labor, capital, wage rates, and profit rates are tied together through the accounting identity that the value of output must equal the sum of wages and profits. I illustrated my argument with a fictitious set of data points whose arrangement spelled "Humbug" (Shaikh 1974). This was ferociously attacked in print, but my request to respond was denied. Still, my argument continued to percolate through the heterodox literature and was even accorded the status of a separate entry in the original *New Palgrave* in 1987. According to one academic citation index, the phrase "Humbug production function" has now been cited 2,196 times.

My interest in economics can be traced back to my time in Kuwait, where I came to wonder why there were so many poor people in such a fabulously rich country. The same question came up in New York as I shuttled between the poverty of Harlem and the privilege of Columbia. I had been told that the answer lay in economics, yet as I attended my classes and studied my textbooks I grew more and more disenchanted with what was being presented. My life history had convinced me that presumptions about what is normal or desirable vary greatly across cultures. It was in this light that I approached the assumptions of orthodox economics, and I found them wanting. It seemed to me the standard model did not describe how people or businesses actually behave, and the argument that assumptions do not matter struck me as an evasion. Nor was I persuaded by the claim that the standard model represented some kind of ideal. Why should it be ideal for economic agents to be concerned only with the things they can acquire, in supreme indifference to direct interactions among themselves? Why should social interactions be relegated to the status of "externalities" to be discussed, *sotto voce*, at the very end of the lessons? Such an approach struck me as a narrow cultural prejudice even within the Western tradition. Becker taught me that many different kinds of behavior can produce the same market patterns. I could think of no sensible intellectual reason, then, for adhering to the particular assumptions of "rational" choice or "perfect" competition.

On the other hand, I found myself equally unhappy with the notion of "imperfect" competition. The great discrepancy between actual business behavior and the model of perfect competition could have led to the conclusion that the latter was an inadequate representation of real competition. It led instead to the rejection of competition itself. In this way, perfect competition ended up being retained as a social ideal, as a benchmark for all real processes, and as a theoretical point of departure for models of imperfect competition. These in turn were often ad hoc and inconsistent with each other. My rejection of imperfect competition put me at odds not only with the post-Keynesian tradition, but also with the vast bulk of modern Marxian economics, but not with Marx.

I should say that my objections have never been to the use of mathematics, econometrics, or other tools of our trade. These can be powerful when used appropriately, and I have myself relied on linear algebra, nonlinear differential equations, agent-based simulation, and most recently the stochastic tools of econophysics. Nor am I opposed to abstraction. But it seems to me that there is a difference between abstraction, which seeks to get to the essentials of some actual process, and idealization, which seeks to raise it to the sky. My foremost concern was always with the overall "vision" of economics and with its applications to the real world. Such considerations led me to turn to Smith, Ricardo, Marx, P. S. Andrews, Harrod, and Sraffa for theory, and to reams of data ranging from national accounts and input-output tables to income distributions by nation, gender, and race. At long last, I am in the process of writing up my investigations in a book under review at Oxford University Press.

I was fortunate at the Economics Department of the New School for Social Research to have the space to work on an alternative approach to competition and macrodynamics, to be mentored by Adolph Lowe and Robert Heilbroner, and receive critical feedback from knowledgeable and literate colleagues and graduate students. I was equally fortunate to get the unstinting support of Dimitri Papadimitriou and the Levy Economics Institute of Bard College, and more recently Rob Johnson of the Institute for New Economic Thinking (INET), at several crucial points in my intellectual development. It was at the Levy Institute that I also met Wynne Godley, who became a mentor on macroeconomics, a coauthor, and a lifelong friend. He is greatly missed.

MY VISION AND WORK

The economic history of the developed capitalist world appears to be one of almost constant progress: inexorable growth, rising standards of

living, rising productivity, ever-improving health, well-being, and welfare. Seen from afar, it is the system's order that stands out. Yet the closer one looks, the more one encounters individuals wandering along entangled paths, propelled by obscure motivations toward some dimly imagined ends. Information, misinformation, and disinformation hold equal sway. Ignorance is as purposeful as knowledge. Private and public spheres are entwined throughout, as are wealth and poverty; development and underdevelopment, conquest and cooperation. And everywhere there appears a characteristic unevenness: across localities, regions, and nations, and across time, in the form of booms, busts, and breakdowns. Seen close, it is the system's disorder that is most striking. Neoclassical economics seizes on the order and recasts it as a consequence of the supreme optimality of the market. Heterodox economics, most notably Keynesian and post-Keynesian economics, generally takes the opposite tack. It emphasizes the inefficiencies, inequalities, and imbalances generated by the system. Most of modern economics operates on a continuum between these two competing visions.

My own understanding of the operations of the invisible hand, derived from the classicals, is different. The capitalist economic system generates powerful ordered patterns that transcend historical and regional particularities. The forces that shape these patterns are neither steely rails nor mere constellations of circumstance. They are, rather, moving limits whose gradients define what is easy and what is difficult at any moment of time. In this way they channel the temporal paths of key economic variables. Indeed, these shaping forces are themselves the results of certain imminent imperatives, such as "gain-seeking behavior," that dominate the capitalist social form in all of its historical expressions. Agency and law coexist within a multidimensional structure of influences. But this structure is itself deeply hierarchical, with some forces (such as the profit motive) dominating others.

From this point of view, systemic patterns are generated in and through continual fluctuations: disorder is the operative mechanism of order. To attempt to theoretically separate order from disorder, or even to merely emphasize one over the other, is to lose sight of their intrinsic unity, and hence of the very factors that endow the system with its deep patterns. In this sense, order is not synonymous with optimality, nor is disorder synonymous with chaos. Order-in-and-through-disorder is a brute force that tramples both expectations and preferences. This is precisely the source of the system's vigor, whether or not one likes the outcome.

It is, of course, necessary to identify particular mechanisms through which order and disorder operate in given circumstances. The great virtue

of the classical approach, in my opinion, is that it is able to derive a large variety of phenomena from a very small set of coherent operative principles that give rise to forces which make actual outcomes gravitate around their ever-moving centers of gravity. This is the system's mode of *turbulent regulation*, whose characteristic expression is *pattern recurrence*. The theoretical and empirical applications of these two notions are woven into the structure of my work.

Turbulent regulation and recurrence apply to the system's various gravitational tendencies. Of these, the first set consists of those that channel the actual movements of commodity prices, profit rates, wage rates, interest rates, equity prices, and exchange rates. Equalizing tendencies driven by the restless search for monetary advantage reduce the very differentials that motivate them while at the same time giving rise to new differentials. For example, equalization processes make individual wage and profit rates gravitate around the corresponding averages, which are themselves affected by the processes and by other factors. These are familiar notions in economics, but the point here is that there is a big difference between gravitation around an ever-moving balance point and equilibrium-as-a-state-of-rest. To study the properties of balance points, as the classicals do with natural prices or Marx does with balanced reproduction, is not to assume that these points exist as such. On the contrary, the relevant variables are generally away from this point and hit it only as they pass through from one side to the other. Among other things, this implies that one cannot assume that agents make their decisions as if they are in equilibrium.

The principle of turbulent regulation has its roots in the method of Smith, Ricardo, and Marx, for whom economic "laws" are dominant regulative principles that exert themselves in and through various countertendencies. The theory of real competition has similar roots in the economics canon, but also in the work of P. W. S. Andrews and Roy Harrod, two prominent members of the Oxford Economic Research Group. Elements can also be found in the business literature, most notably in the work of Michael Porter. A characteristic feature of this vision is that *competitive* firms necessarily engage in price-cutting and cost-cutting behavior, that technical and labor conditions vary across firms, and that only the firms with the best generally available conditions of production (best practice) have their profit rates equalized with those of similar firms in other industries. The resulting patterns closely resemble those found in business studies and in the literature on imperfect competition. Yet they represent the outcomes of price and profit rate equalizing competition, not "imperfect" competition. I have

spent a great deal of time over the years developing and testing the theory of real competition.

The second set of gravitational tendencies arises from the system's *turbulent macrodynamics*. This gives rise to its characteristic expansionary processes, with its waves of growth and slowdown, persistent unemployment, and periodic bouts of inflation. Once again, it is the profit motive that is the dominant factor in the regulation of production, investment, economic growth, employment, business cycles, and inflation. The emphasis on growth also has roots in the classical tradition, as well as in the works of Harrod and Joan Robinson. The latter two share an emphasis on growth as the normal state but disagree on its determinants. For a given technology, Harrod believes that growth is driven by exogenously given savings rates,¹ while Robinson (like Keynes) argues that it is the profitability of investment that drives growth.² In the Pasinetti-Kaldor extension of Harrod, profitability adapts to growth, while in Robinson's argument, it is the other way around. I take the classical-Keynesian-Robinsonian path here. But because the classical starting point accords a central role to production, the end result is characteristically different. Supply is neither the imperial force of neoclassical economics nor the ghostly presence of Keynesian and Kaleckian economics. Supply and demand are coequals here, and as always, profit is pulling the strings.

I have focused so far on my life experiences as they have influenced my vision of economics. In what follows, I would like to illustrate some of the applications of my general approach.

At a methodological level, I have focused on the fact that gravitation of actual outcomes around their balance points (fundamentals) is generally mediated by expectations. In my earlier work, I focused on nonlinear dynamics as a means of formalizing such processes, inspired by earlier work by Kaldor and Goodwin. More recently, I realized that George Soros's theory of reflexivity, which emerges from his considerable experience in the world of finance, provides a more general framework for the interactions of these three variables. Soros advances three general theses: expectations affect actual outcomes, actual outcomes can affect fundamentals, and expectations are in turn influenced by the discrepancies between outcomes and fundamentals. The end result is a process in which actual variables oscillate turbulently around their gravitational values. Expectations can induce *extended disequilibrium* cycles in which a boom eventually gives way to a bust (Soros 2009: 50–75, 105–106). Because expectations can affect fundamentals, the gravitational centers are path dependent. Hence, the future is not a stochastic reflection of the past, so that the overall system

is nonergodic (Davidson 1991). The existence of extended disequilibrium processes invalidates the efficient market hypothesis, and the dependence of fundamentals on actual outcomes invalidates the notion of rational expectations. Last, it is important to recognize that although expectations can influence actual outcomes, they cannot simply create a reality that validates them. On the contrary, gravitational centers continue to act as regulators of actual outcomes, which is precisely why booms eventually give way to busts (Soros 2009: 40–44, 50–58, 75, 216–222). Such patterns are consistent with the empirical evidence and with classical ideas on turbulent equilibration, but they invalidate notions such as rational expectations and the efficient market hypothesis. By tracing the elements of Soros's theory, I showed that it can be formalized in a simple and general manner that gives rise to testable propositions (Shaikh 2010).

Profit rate equalization is a central concept in all theories of competition. In the classical view of competition, profit rate equalization is conceived as a dynamic and turbulent process involving ceaseless fluctuations around a moving center of gravity. New conditions of production are constantly entering the battle of competition as older ones fall away. This perpetual fray gives rise to profit rates that generally differ across methods and firms. I have long argued that what is relevant to competition is the profit rate on the best-practice conditions of production, because their profitability is the relevant gauge for new investment. This led me to develop an approximation to the profit rate on recent investment in the form of an incremental rate of profit, defined as the ratio of the change in gross profits to the previous period's gross investment (Shaikh 1998). In a more recent paper I examine average and incremental rates of profit from 1970 to 1990 in eight manufacturing subsectors, each aggregated across eight major OECD countries; in subsectors of US manufacturing from 1979 to 1990; and in thirty US industries from 1987 to 2005. Average rates of profit were found to cluster around a common mean, but many remained persistently above or below that benchmark. By contrast, incremental rates of profit consistently moved back and forth across their common mean, as would be expected from the classical theory of the turbulent equalization of actual profit rates (Shaikh 2008). It should be said that an incremental rate of return, with its erratic path and boisterous interactions, is very different from the genteel marginal rate portrayed in standard theory.

I applied the same approach to the financial market. All theories of competition expect that rates of return are equalized between sectors, for instance between the corporate sector and the stock market. Orthodox economics builds the expectation of exact equalization into its theory of stock

prices, through various versions of the discounted cash flow model. Yet this model performs so badly at an empirical level that economists such as Robert Shiller have concluded that financial markets are driven largely by irrational expectations, fads, and fancies – not just in periods of bubbles, but in general. Shiller shows that the average rate of return in the equity market and the average profit rate in the corporate sector differ considerably in their levels, volatilities, and trends. This is the empirical foundation for his well-known thesis that equity markets exhibit “irrational exuberance” (Shiller 1989, 2001). I argued on theoretical grounds that competition serves to equalize returns on new investment, not average rates of return. This is significant, because industrial capital stocks are of varying efficiencies and vintages, whereas all equities in a given corporation are the same regardless of the date of their issue. My own calculations using Shiller’s data (which he had generously provided to me) showed that the incremental rates of return in the stock market and the corporate sector are extremely similar: both are highly turbulent, yet they have virtually the same mean and variance, and even move together most of the time except for specific and limited bubble periods, as in the 1990s. From a classical perspective, the combination of the incremental rate of return and Soros’s concept of reflexivity with its notion of a moving center of gravity provides a far better explanation of stock prices than does Shiller’s “irrational exuberance” (Shaikh 1998, 2010).

Another strand of my work involves the explanation of growth. Along Harrod’s warranted path, long-term growth is driven by the savings rate (thrift). But in Solow’s influential growth model, thrift has no effect on the long-run rate of growth, which is instead driven largely by exogenous technical change. The endogenous growth theory of Frankel and Romer therefore makes technical change internal to accumulation in a very particular manner, precisely in order to reinstate thrift as the driver of capital growth. I observe that there is a striking discrepancy between micro- and macro-economic reasoning in all three approaches. All sides agree on the notion that individual investment (capital expansion) is driven by its expected profitability, and yet all sides conclude that in the long run aggregate capital expansion is driven by something totally different. I argue that this break is neither theoretically necessary nor empirically plausible. The key to reconciling the microeconomic understanding and the macroeconomic results lies in recognizing that the business savings (retained earnings) are crucially linked to business investment: both are internal to any given firm, so they cannot be taken as independent. In a path-dependent nonergodic world, it is not possible to link the two through the usual calculus of all-seeing

optimization. I show that that it is mathematically sufficient if the business savings rate responds (in any degree) to the gap between total savings and investment. This makes the overall savings rate endogenous, and then it is possible to reconcile profit-driven growth as in Keynes and post-Keynesian economics with roughly normal levels of long-run capacity utilization as in Harrod (Shaikh 2009). The further implications for the analysis of multiplier effects, particularly for those arising from deficit spending by the state, will be addressed in my forthcoming book.

I have also developed an approach to inflation that derives from the classical link between growth and profitability. Marx, Leontief, and von Neumann established that the profit rate provides the upper limit to the sustainable growth rate of the economy even when there are no input (including labor) constraints. From this perspective, I argue that the *ratio* of the growth rate to the profit rate provides an index of the degree of utilization of an economy’s growth potential. In contrast to conventional measures of unemployment or capacity utilization, my measure of the utilization of growth potential works quite well in explaining actual episodes of inflation in OECD countries, including the infamous “stagflation” of the 1970s and 1980s (Shaikh 1999). This work is being extended to cover inflation and episodes of hyperinflation in countries like Argentina and Brazil.

Finally, and perhaps most controversially, I have long argued that the theory of comparative costs is fundamentally incorrect on both theoretical and empirical grounds. The theory of international trade is actually a subset of the general theory of competition. In a capitalist world, free international trade is conducted by *businesses*: Domestic exporters sell to foreign importers, who in turn sell to their residents, while domestic importers buy from foreign exporters and sell to us. At each step in the chain, it is profit that motivates the business decision. Comparative cost theory rests on the proposition that a trade surplus will drive up the real price of the country’s currency, which in turn will reduce the surplus, until at some point both the balance of trade and the balance of payments are automatically reduced to zero. A trade deficit would have the opposite initial effect, leading to the same conclusion. In Ricardo’s original derivation, the nominal exchange rate is fixed, so imbalances generate money inflows and outflows that raise or lower national price levels, thereby moving the real exchange rate in the opposite direction – until the trade balance is zero and the terms of trade lie between comparative cost limits. In the case of flexible exchange rates, the money flows move the nominal exchange rate to the same ultimate point. In either case, it is the real exchange rate that adjusts automatically. Both Marx and Harrod make a compelling counterargument: money inflows increase

liquidity and lower interest rates, while money outflows have the opposite effects. Neither of these substantially alters the trade balance. Instead, they induce short-term capital flows, which bring overall payments into balance by covering the persistent trade deficits (Harrod 1957: 90–96, 112–116, 130–138). My own extension has been to show both theoretically and empirically that international terms of trade are, in the end, relative prices regulated by relative real costs. Thus, international competition operates in much the same way as national competition, rewarding cost advantages and punishing cost disadvantages (Shaikh 2007, Shaikh and Antonopoulos 2012).

My work has generally focused on understanding and explaining fundamental patterns in the developed world. This is not due to a lack of interest in economic policy or in economic development. On the former front, I worked for several years with Wynne Godley and Dimitri Papadimitriou on the macroeconomic model of the Levy Institute of Bard College, helping put out a biannual macroeconomic report on the patterns and prospects of the US economy. On the latter front, I have always believed that an analysis of the developed world is an essential foundation for an adequate understanding of economic policy and economic development.

Finally, I have always believed that economics must be a moral science. Today, in the midst of a global great depression, the International Labor Organization reports that income inequality has actually worsened, that there are more than 900 million working people in the world living below the US\$2 poverty line, that there are 1.52 billion workers in vulnerable employment, and that young people are nearly three times as likely to be unemployed as are adults. Moral and ethical differences affect the goals to which we subscribe, and theoretical differences affect the prescriptions we offer. One important task is to make these differences explicit and to confront their implications. There is no such thing as a value-free or socially neutral economics.

REFERENCES

- Becker, Gary S. (1962). "Irrational Behavior and Economic Theory," *Journal of Political Economy* 70: 1–13.
- Davidson, Paul (1991). "Is Probability Theory Relevant for Uncertainty? A Post Keynesian Perspective," *Journal of Economic Perspectives* 5, no. 1: 129–143.
- Harrod, Roy F. (1957). *International Economics*. Chicago: University of Chicago Press.
- Laughlin, Robert B. (2005). *A Different Universe: Reinventing Physics from the Bottom Down*. New York: Basic Books.
- Sardoni, Claudio (1987). *Marx and Keynes on Economic Recession: The Theory of Unemployment and Effective Demand*. New York: New York University Press.

- Shaikh, Anwar (1974). "Laws of Production and Laws of Algebra: The Humbug Production Function," *Review of Economics and Statistics* 61, no. 1: 115–120.
- (1998). "The Stock Market and the Corporate Sector: A Profit-Based Approach," in M. Sawyer, P. Arestis, and G. Palma (eds.), *Festschrift for Geoffrey Harcourt*, 389–404. London: Routledge & Kegan Paul.
- (1999). "Explaining Inflation and Unemployment: An Alternative to Neoliberal Economic Theory," in A. Vachlou (ed.), *Contemporary Economic Theory*, 89–105. London: MacMillan.
- (2007). "Globalization and the Myth of Free Trade," in A. Shaikh (ed.), *Globalization and the Myth of Free Trade*, 50–68. London: Routledge.
- (2008). "Competition and Industrial Rates of Return," in P. Arestis and J. Eatwell (eds.), *Issues in Economic Development and Globalisation, Festschrift in Honor of Ajit Singh*, 167–194. Houndmills: Palgrave MacMillan.
- (2009). "Economic Policy in a Growth Context: A Classical Synthesis of Keynes and Harrod," *Metronomica* 60, no. 3: 455–494.
- (2010). "Reflexivity, Path-Dependence and Disequilibrium Dynamics," *Journal of Post Keynesian Economics* 33, no. 1: 3–16.
- Shaikh, Anwar and Rania Antonopoulos (2012). "Explaining Long-Term Exchange Rate Behavior in the United States and Japan," in J. Moudud, C. Bina, and P. L. Mason (eds.), *Alternative Theories of Competition: Challenges to the Orthodoxy*. Abingdon: Routledge.
- Shiller, Robert J. (1989). "Comovements in Stock Prices and Comovements in Dividends," *Journal of Finance* 44, no. 3: 719–729.
- (2001). *Irrational Exuberance*. Princeton, NJ: Princeton University Press.
- Soros, George (2009). *The Crash of 2008 and What It Means*. New York: Public Affairs.

Notes

- 1 Differentiating saving rates by income class (wages and profits, for instance, as in Kaldor and Pasinetti) allows changes in the distribution of income to modify the aggregate savings rate. Even so, it is the assumed fixity of class savings rates that leads to the result that the distribution of income (the profit/wage ratio) must adapt to make the actual growth rate conform to the natural rate of growth.
- 2 Keynes also notes that it is profitability, not demand, which drives production itself. "An entrepreneur is interested, not in the amount of the product, but in the amount of money which will fall to his share. He will increase his output if by so doing he expects to increase his money profit, even though this profit represents a smaller quantity of product than before" (Sardoni 1987: 75).