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Firm innovation and capitalist dialectics: The economics of Nina Shapiro

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Abstract

This essay is a review of and tribute to the life and contributions of Nina Shapiro, who passed away this year. Shapiro was an American Post-Keynesian economist, who was a bridge figure in radical economics, connecting Marx to Keynes, Schumpeter to Kaldor, the behavior of the firm to the dynamics of the macroeconomy, and the process of innovation to the organization of production and accumulation. She was seminal to important moments in the history of radical economics in the US, including the formation of the Hegel-inspired journal *Social Concept* in the 1980s and the Rutgers University's Post-Keynesian circle in the 1980s and 1990s. Shapiro's deeply philosophical and dialectical approach to firm behavior, innovation, and business cycles led her to theorize the "revolutionary character" of Post-Keynesian economics and to formulate a critique of the competitive neoclassical firm which, she argued, is at odds with the logic of capitalism in which firms seek to make profit and grow.

JEL Codes: B24, B32, B51, B55

Keywords

Capitalist competition, dialectic, growth, heterodox economics, innovation, Kalecki, Marshall, Marx's method, Post-Keynesian economics, pricing, Steindl, theory of the firm

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Introduction

Nina Shapiro, the American Post-Keynesian economist, passed away at the age of 71 on 6 March 2019, after a long bout with cancer and its complications. Shapiro was unusual in many respects—a woman in the very male field of Post-Keynesian economics, a theoretical economist who shunned mathematical modeling, a macroeconomist whose main focus was on the firm, a Keynesian whose underlying conception of capitalism was Marxist, and a Marxist whose interpretation of the dialectic was Hegelian. Shapiro grew up in Chicago, was educated at Grinnell College, and moved in her last year to the University of Wisconsin–Madison to be more involved in the anti-war movement. On the advice of Paul Sweezy, she then moved east and did her doctoral work at The New School for Social Research. Before arriving at The New School, she went to work at a factory in the belief that workers and intellectuals needed to unite and was involved in progressive labor groups. She also joined a reading group at Yale that focused on Hegel and more conceptual issues in the history of economics. Nina met her husband, Richard Garrett, in The New School Economics Department. Richard had a long and successful career at Marymount Manhattan College, and he is listed in the acknowledgments of almost every article that Nina published. At the time that we studied in Nina's class at Rutgers, she gave birth to their daughter Emma Garrett.

Shapiro went on to teach at Merrimack College; then at Rutgers University during the period when it was a lively center of American Post-Keynesian, institutionalist, feminist, and Marxist thought; and then to Drexel University and St. Peter's College. She published steadily in *The Journal of Post Keynesian Economics* and *The Journal of Economic Issues*, and she was on the founding editorial board of *Social Concept*. She made important contributions to Post-Keynesian economics and was central to a number of institutions that moved Marxist and Post-Keynesian thought forward in the late 20th century. This was the period soon after the Vietnam War and after the Cambridge controversy, which mobilized many young leftist thinkers to focus attention on the radical theoretical critique of neoclassicism, and before the emergence of a cadre of Kaleckian modelers and econometricians who now span universities across the globe and fill the heterodox journals. Shapiro was thus a bridging figure in the history of heterodox economic thought, and her contributions, while to an extent underappreciated during her lifetime, are likely to be revisited regularly as heterodox economics presses forward in the 21st century.

We were Nina's students in the early 1980s at Rutgers University and were profoundly affected by her teachings in the history of economic thought in developing our understanding of economics. Since economics is, as her own teacher Robert Heilbroner put it, "capitalism's explanation system," it was Nina's deep and rigorous and precise treatment of the history of economic ideas that rooted her—and our—understanding of society. In this essay, we focus on Nina's intellectual trajectory, but our motivation is to honor a brilliant and warm person who impacted us as a mentor and friend over many years.

Marx's method and "The revolutionary character of Post-Keynesian economics"

Shapiro was a committed Marxist when she arrived at The New School, and yet she wrote her dissertation on the nature of the firm and competition in Alfred Marshall's

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Principles of Economics, a text perhaps as distant from Marx as any major work in the history of economic thought. The thesis, supervised by Edward Nell and Robert Heilbroner, would signal Shapiro's lifelong concern with the nature of capitalist competition and its implications for economic growth and decline. It also reflected Shapiro's broad interest in classical and Keynesian economics: Marshall was certainly not associated with the Walrasian strain of general equilibrium analysis. Keynes, in turn, had studied with Marshall. And the British-based growth theorists Kaldor, Harrod, and Robinson were influenced by Marshall. Marshall thus provided both an intellectual bridge to classical and Keynesian thought and a foil against which one could analyze the problems in the neoclassical theory of competition, for example, with respect to the treatment of scale economies. Shapiro came at this issue from a Marxist and specifically dialectical perspective on innovation and competition. Firms seek to grow over the long run, and this has specific requirements of innovation, market power, institutional organization, and finance. The market power of such firms may in turn, following Steindl, lead to stagnationist tendencies in the macroeconomy. In this sense, her work extends Schumpeter's important notion of "creative destruction," in which innovation by one firm may lead to the death of others. Pushing beyond this conception, Shapiro explored the essential requirements of product and process innovation and considered their implications. She integrated these considerations into an alternative theory and then applied this very rich treatment of the firm to a treatment of consumption, capital accumulation, financialization, aggregate demand, employment, and income.

Shapiro became friends with David Levine at Grinnell College in Iowa in 1966, and the two became close collaborators in the search for a Marxian analysis of capitalism, the driving principle of which was Marx's dialectical method rather than any particular Marxian political agenda. Shapiro and Levine eventually moved from Grinnell to the University of Wisconsin–Madison, where they graduated in 1969. According to Levine, the move to Madison was motivated in part by the fact that it was the center of the student anti-war movement in the US. Donald Harris also came to Madison in 1968. Shapiro studied with him and wrote her undergraduate thesis under him. His thinking connected Shapiro's interest in Marx to the Cambridge School and in particular piqued her interest in the work of Sraffa, Joan Robinson, and Kaldor and the theory of growth. Alfred Marshall was the intellectual foundation for Robinson and the Cambridge School, and therefore Nina's interest in Marshall began in this period.

Shapiro and Levine were especially interested in the work of Paul Baran and Paul Sweezy (*Theory of Capitalist Development*, *Monopoly Capital*) and the writings of critical thinkers such as Herbert Marcuse (*Reason and Revolution*). The study of *Monopoly Capital* led Shapiro to pursue the intellectual origins of Baran and Sweezy's work in the writings of Josef Steindl and Michal Kalecki. This line of thinking brought demand, income distribution, market power, investment, and innovation into the picture, connecting Shapiro to the Keynesian tradition and a focus on the firm. She retained this sensibility through her entire career and wrote two thoughtful essays in recent years about the relevance of Steindl in the 21st century (Shapiro, 2012a, 2012b).

For Levine and Shapiro, Marx could be separated into two threads. The first was the scientific Marx, interested in the philosophical critique of classical political economy and the internal logic of capitalism. The second was the political Marx, animator of the revolutionary project that was being connected to the social movements of the day. For Levine and Shapiro, these two threads never settled comfortably together, and Marxist economics over the decades has struggled to maintain both threads. At risk of some simplification, we would say that Shapiro and Levine and their group of interlocutors were more interested in exploring the scientific and logical dimensions of political economy, including in Smith, Ricardo, Marx, and others. To the extent that radical economics in the US tended in the other direction (including, arguably, for Baran and Sweezy themselves in the *Monthly Review* journal), it meant that the work of Shapiro and Levine was always a bit outside the mainstream of radical economics.

To further complicate matters, the group scrutinized Marx's methodology. They carefully considered the claim that Marx had "turned Hegel on his head." They found this formulation too simplistic and instead explored the richness of the dialectical process for the analysis of capitalism without always placing the materialist dimension as primary. Their approach thus identified a division among Marxists, between those interested in "weaponising the science" for the use of the political struggle and those interested in the study of the science, which required studying not just Marx but also Smith and Ricardo, and eventually Keynes and the Post-Keynesians.

Levine and Shapiro's adherence to Marx was thus more to its method than its revolutionary outcome. They were dissatisfied with the narrow focus on the labor theory of value and they instead looked more broadly at the theory of capitalist development. Their interest in reading Marx closely was to uncover his method. That in turn led to a need to read Hegel. Marx was said to have flipped Hegel on his head by taking the idea that reality and history should be viewed dialectically, and Marx sought to rewrite dialectics in materialist terms. Shapiro's interest in Marx was more in terms of method and a desire to think about some alternative to the labor theory of value. This skepticism of the logical status of the labor theory of value allowed Shapiro to be open to Keynes and specifically the idea that demand is important in the determination of value and output. Escaping from a primary focus on the labor theory of value opened up many dimensions of economic and material processes (Harcourt and Kerr, 1996). As a committed Marxist, Shapiro found in Steindl and Kalecki a Keynesian version of Marx. Sweezy's influence continued, since he emphasized the importance of the market more than asserting some law regarding the tendency of the rate of profit.

Liberated from Marx in this way, Shapiro expanded out from her Marxist foundations and early on in her thinking came to see Post-Keynesian economics also as "revolutionary." This view came out of her reading of Keynes, Kalecki, Steindl, Harrod, Robinson, and Kaldor. Keynes' break from the neoclassicals was seen in his treatment of investment as delinked from the interest rate determined by the desired saving rate of consumers. Investment was rooted instead in firms' desire to grow, and this in turn depended on expectations of future demand and thus profitability. This delinking constituted a fundamental break from neoclassicism because it eliminated the system's reliance on rational choice by consumers. The systemic nature of capitalism has fundamental properties that are independent of individuals: "Indeed, to the degree that this Keynesian notion involves the introduction of expectations into investment decisions, it only makes sense in terms of this departure from neoclassical economics" (Shapiro, 1977: 542).

The implication was profound: economics in the Post-Keynesian conception was not rooted in scarcity. Shapiro (1977) refers to Joan Robinson's view of investment and innovation, noting that "As Robinson has pointed out, where this process [capital accumulation] confronts a natural barrier, such as the 'scarcity' of fertile land or labor, this natural barrier must give way rather than accumulation" (p. 552). This essay was one of Shapiro's most influential. It had a profound effect on younger scholars searching to understand the strangely un-intuitive aspect of neoclassical economics (that continues to puzzle undergraduates today), and it provided a serious critique of rational choice economics. The work also cemented her connection to the Keynesian tradition, and although she would mainly pursue this through the lens of Kalecki and Steindl, she nonetheless began to establish herself as a leading Post-Keynesian thinker.

It is worth noting that Shapiro takes the analysis further in the paper, challenging Post-Keynesians also to confront a basic indeterminacy in the theory of accumulation. Since it is based on "animal spirits," it is thus still connected to "the whims of individuals." When this aspect is combined with the classical investment relation that all profits are invested, the theory becomes a self-sustaining process. Shapiro (1977) concludes that Post-Keynesian economics "awaits the development of an analysis of the particular way in which the accumulation process determines itself in the course of sustaining itself" (p. 554). Her skepticism of some Post-Keynesian analysis continued with a critical essay on Pasinetti's (1983) book *Structural Change and Economic Dynamics*. She argued that the "natural economy" as defined by Pasinetti did not function like a capitalist economy. The idea of a "natural economy" was based on a simplistic notion of technical change and technological unemployment, and lacked any real mechanism to incentivize business investment other than the equilibrium (full employment) condition of the model (Shapiro, 1984).

The founding of *Social Concept*

By 1973, Levine had completed a dissertation at Yale and joined the faculty there. Shapiro was in New York at The New School and moved to New Haven where she participated in a seminar series with Levine and others and joined a study group on Hegel, which referred to itself as the "Hegel Bagel" group.[1] Levine played an important role in the founding of a new journal called *Social Concept*, and Nina was a member of its editorial board. The board members, many of whom participated in the seminar or the study group, included Michael Bernstein, Richard Garrett, Carol Heim, Jane Knodell, Lynn Levine, Julie Matthaei, Ross Thomson, David Weiman, Rona Wilensky, and others.

The idea of the project was to promote thinking less in terms of doctrine and more in terms of method and to focus on the idea of social determination found in Hegel and Marx. The goal was to look at economic behavior as not a natural but a socially determined system. According to the statement of purpose published in the journal's inaugural issue,

> The first objective of Social Concept will be the revival of abstract, theoretical thinking in social science through the rejection of prevailing "logic of the social sciences." This logic constitutes a fundamental impediment to progress primarily due to its exclusion of the

> investigation of the conceptual structure of social science, and its repudiation of the search for immanent laws of the structure and development of the social organism. The revival of social science must begin with a return to its sources, and an understanding of its own history and development. Social Concept will, therefore, encourage substantial treatments of the history of social science. This objective is distinctive in that it claims to find importance in the investigation of ideas which constitute points in an as yet unfinished process of development.[2]

The journal kept a group of academics—many of whom were economists who had studied at Yale as students of Levine—connected even though by that time they were geographically dispersed. It provided an important source of mutual support for intellectual work that departed from dominant approaches to social science. The group produced about 14 issues of the journal, the last one in 1995. Part of the reason it ended may have been because of the trajectory of Marxist thought in the American academy. There were two Marxist camps, the philosophers and the foot soldiers of socialism, and the political side won out in academe over the philosophers. Formalist approaches also drew some heterodox economists in a different direction. In addition, the journal was largely self-funded by the editorial board members, who were mostly assistant professors at the start of their careers. The purpose of the journal was very much at the heart of Nina's motivation as a scholar and teacher. In her class lectures, she emphasized the need for a deep understanding of the history and development of ideas. Just as the economy was a social, not natural, phenomenon, so were the ideas that illuminated it.

Rutgers and the development of American Post-Keynesian economics

Shapiro arrived at Rutgers after a year teaching at Merrimack College in Connecticut. At Rutgers, she joined a growing Post-Keynesian and radical group of faculty, led by Paul Davidson and Jan Kregel and including Lourdes Beneria, James Street, Robert Guttmann, Bruce Steinberg, and later Alfred Eichner and Michelle Naples. (Not one of them is still at Rutgers, and that department no longer has any vestiges of heterodox thought.) The authors of this essay were graduate students in that program, and we benefited enormously from the intellectual energy (and tensions) that this group of faculty created. Radical, feminist, development, and Post-Keynesian economists from around the world found their way to New Brunswick, New Jersey to present their work and to engage with the eclectic group of scholars that collected at Rutgers. Geoff Harcourt, Alessandro Roncaglio, and others visited Rutgers and became regular interlocutors with Shapiro.[3] A cohort of students who worked closely with Shapiro and became deep admirers of her work graduated from the doctoral program in that era. They include the late Fernando Cardim Carvalho, Johan Deprez, Esther Gesick, Miles Groves, the late Fred Lee, and Andrea Terzi, all of whom went on to make contributions to Post-Keynesian thought in their own right.

Shapiro was an intense intellect and a powerful lecturer. Students (including the two authors of this essay) flocked to her two-semester sequence of courses on the history of economic thought. The emphasis of the presentation, whether it was a reading of Quesnay, Ricardo, Walras, Bohm-Bawerk, Marshall, or Keynes, was on the ontological dimension of the work. That is to say, Shapiro considered the nature of the theoretical economic system and interrogated its logic and its implications for the nature of agency. She required students to read the original texts, and these were supplemented with David Levine's two-volume text, *Economic Theory*.[4]

At the time that we followed Nina's courses, we had been studying the techniques of mathematical neoclassical modeling in both microeconomics and macroeconomics for almost 2 years. With Shapiro's approach and insights, we, finally, gained a deep understanding of these models, from the investment function and the role of profits (Ricardo), to the Walrasian notion of general equilibrium with no false trades (Walras), to the problem that the presence of returns to scale poses for the theory of competition (Marshall).

Firm pricing, accumulation, and innovation

The firm is an organization that seeks to grow over the long run. It must be innovative to thrive, and it must have resources in order to innovate. The neoclassical firm has none of these features, and Shapiro considered it completely implausible in a capitalist system (Shapiro, 1976, 1986, 1991).

Shapiro devoted most of her work to the theory of the firm and its macroeconomic consequences. The competitive neoclassical firm was at odds with the logic of capitalism, which was rooted in the notion that firms seek to make profit and grow. To do so, they must innovate, that is, differentiate themselves from their competitors. Pricing could not be the sole way in which firms differentiated themselves from competitors.

The theory of price was also connected to the logic of capitalist competition. Since the survival and growth of the firm hinge on investment in new (and replacement) capital goods aimed at improving on processes and products, pricing was part of the innovation and growth strategy. Price setting generates the saving in the form of profits that are required for investment (Shapiro, 1981). It is the objective of firm growth in its pricing decision that links microeconomics and macroeconomics. Shapiro drew heavily on Steindl's work, both in its pricing theory and in its connection of pricing to investment. The Steindl proposition was that the oligopoly power ("degree of monopoly" in Kalecki's terms) required to generate the investment funds for firm growth also generated a stagnationist tendency through its generation of excess capacity and a rise in profit margins (Steindl, 1976). Capitalism's contradictions emerged even in this Post-Keynesian formulation.

Shapiro's view also connected easily with Post-Keynesian markup pricing theory by Harcourt and Kenyon (1976) as well as with her colleague Alfred Eichner's theory of markup pricing by "megacorp" firms. Eichner's theory of the firm and its pricing behavior emerged from his historical work on the sugar industry and the insight that firm pricing strategy involved a consideration of the supply and demand for investment funds that the firm sought for its growth (Eichner, 1973). In this view, investment, profits, and saving are inextricably linked (Shapiro, 2005; Shapiro and Sawyer, 2003). Eichner and Shapiro were close colleagues at Rutgers, and Eichner's influence led Shapiro to incorporate economic history—and specifically the history of the firm (e.g. Chandler)—into her work. Eichner also shared Shapiro's view that the firm sat as one of the innate forces of capitalist expansion. This view connected Shapiro and Eichner to Cambridge growth theory—especially Harrod and Kaldor—and its presumption of the exigency of expansion in capitalist systems. After Eichner died suddenly in 1987, Shapiro wrote a careful analysis of his contribution (Shapiro, 1990).

Prices and pricing are not the full story behind capitalist development. Just as markets do not generate innovation—firms do—prices alone do not provide the information that is needed for innovation, which must be tuned in with the capabilities of suppliers and the wants of consumers. This led to a number of insights. The first was that innovative firms cannot be the pure competitors of neoclassical economics because they require profit, which hinges on some degree of market power. Moreover, competition is important because it expands capacity utilization. In this view, it is the maturation of industry and the lack of competition among oligopolists that result in excess capacity and a lack of firm investment. Second, innovation is a function of organization, not of individuals, and so the notion of the firm as driven by an individual entrepreneur is implausible.

Finally, the innovation process cannot be understood as limited to the realm of pricing. Over time, Shapiro became unsatisfied with a mechanical relation between investment and innovation and interested in the process of innovation itself. This led to a focus on product innovation and on the nature of the organization that would encourage innovation. The result was to expand her theoretical scope beyond Marx, Keynes, and the Post-Keynesians and also to consider scholars of firm innovation, starting with Chandler and Penrose and also Shapiro's contemporaries from the business school world, including Abernathy, Utterback, Teece, and Williamson. These scholars added to her theory a grounding of specific details and knowledge of the late 20th-century corporate world, the organizational forms that were most innovative, the cooperative nature of the organization that was required, and even the cooperation between producers and consumers which was required for the development of products that served consumer needs and improved on existing products and would thus be profitable for firms to develop. Her work became more grounded in the history of firm innovation, and Shapiro was invited to present it at economic history conferences. Already familiar with Marshall's work on the history of business enterprise, she sought to emulate the integration of theory and history that was emblematic of Marshall, Keynes, Steindl, and, to some extent, Joan Robinson.

Shapiro's later work focused on the firm's requirements for innovation and in particular on the financial needs of the firm. From Eichner and the managerial theory of the firm, Shapiro identified retained earnings as a crucial source of capital. This led her to an analysis of financialization, and one of her later papers was "Implications of the recent financial crisis for firm innovation" (Milberg and Shapiro, 2013), in which she and Milberg argued that financialization of non-financial corporations—especially in the form of dividends and share buybacks—had broken the historical relation between stock prices and investment (and in particular, R&D investment) as established in the research on Tobin's Q. In Shapiro (2012b), she describes this financialization process as a contemporary form of Steindl's connection among industrial maturity, oligopoly, and investment stagnation.

Shapiro's theory was rooted in the logic of capitalism, not in ethical or normative considerations of what "should" be and not in mathematically driven equilibrium conditions. The logic of capitalism was the compulsion of firms to innovate, the fact that they have financing requirements to do so and become more concentrated as a result, which leads them to experience recurring booms and busts. The facts—usually stylized facts—elaborated the logic. Shapiro's analysis of the firm, and her connection of microeconomics to macroeconomics rooted in the work of Kalecki and Steindl, remains an unfinished project. Since Nina's death, a number of people have lamented the fact that her own book manuscript on the firm will never be completed. We have discovered, subsequent to her death, that she had an ongoing correspondence with Joseph Steindl, who it turns out was a close reader of Shapiro's work and very much admired her reading of his work. Steindl provided detailed comments on the book Shapiro co-edited with Tracy Mott on Steindl (Mott and Shapiro, 2005). Their correspondence spanned a decade. They also had discussions at one of the Post-Keynesian meetings that took place in Trieste in the 1980s.

* * *

Nina Shapiro did not seek the limelight. She published steadily, but only when she felt the ideas were significant. Her writing was at times dense and required a commitment on the part of the reader. Shapiro only cited works that were truly formative for her thinking. She did not cite the work of her friends or colleagues simply in order to be polite. Nina was the real deal: honest, warm, and devoted to her friends, silent to those who were not.

We have tried, in this short essay, to capture Nina's intellectual contributions to Post-Keynesian economics, her intensity as a scholar and thinker, and her warmth as a person. The authors of this essay have both reached the ripe age of 60, but we still consider ourselves "students of Nina." We took Shapiro's courses more than 35 years ago and we both have held on to the lecture notes we scribbled and have used them in our teaching and in our research.

Throughout her life as an academic, Nina embraced her students by reading their work with a deeply critical but always friendly edge, pushing us to challenge our own thinking. She celebrated with us in our successes and helped us endure our failures. We laughed together about the absurdity of life's injustices—in academe, in American politics, in capitalist society.

We miss that laugh as we mourn the loss of a great economist.

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Notes

1. Based on conversation with David Weiman.
2. "Statement of Purpose," *Social Concept* 1(1) May, 1983.
3. Harcourt invited her to contribute a chapter on the issue of competition and market structure in *The General Theory*, what Harcourt called in correspondence "an important paper." See Shapiro (1997).
4. See David P. Levine (1978a, 1978b).

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