NEGLECTED PROPHETS

Paul Davidson:
The Truest Keynesian?

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Whenever economists discuss Post Keynesian economics and its influence in the profession, one name will always be mentioned — Paul Davidson. Aside from being a prolific author, Davidson is known for his quick wit and intellect. In his discussions — some call them debates — he insists that all arguments be pushed to their logical conclusions. Underlying these discussions is a deep belief that economics should be concerned with the problems of the real world and that the purpose of economic policy is to help society become more humane and civilized. If one theme runs clearly throughout Paul Davidson’s work, and with increasing vigor, it is his insistence on adhering to the words and ideas of John Maynard Keynes. This theme at once inspires his admirers and annoys his dissenters. It is most exasperating for those who consider themselves to be somewhere in his camp, but who have felt his criticism or disagreement because of their alleged deviations from Davidson’s interpretation of the views of Keynes. For Paul Davidson, Keynes was the master, he is merely the disciple.

This has shown up in numerous contexts, some humorous. At the time Davidson and Sidney Weintraub founded the Journal of Post Keynesian Economics (JPKE), he was not initially enamored of the term Post Keynesian, especially given that Paul Samuelson had been using Post-Keynesian eclecticism in his famous Principles text as a label for a version of the neoclassical synthesis for which Davidson had little use. Rather, Davidson proposed calling it the Journal of Keynesian Economics, until it was pointed out that its initials would then be JOKE. Today he calls himself a Keynesian, not a Post Keynesian in order to distinguish himself from the several other varieties of Post Keynesians. But, particularly in his writings, Davidson has intentionally separated himself from what he considers to be the “Old” Keynesians (Samuelson, Tobin, Solow, and Patinkin) who reigned in the American economics profession in the 1950s and 1960s and the “New” Keynesians (Mankiw and Romer) of the 1980s and 1990s. His primary criticism of both the Old and New Keynesians is that they do not accept the

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paper by simply adding some algebraic equations in the text. This seemed to satisfy the editor and the paper was accepted for publication. Davidson hoped that the paper would create some dialogue, particularly from Tobin. This did not happen. In response, Davidson decided that it was time to write a book that would force the issues of money and employment on the table. That book turned out to be Money and the Real World written during his stay at Cambridge University in 1970-1971.

Cambridge turned out to be a rich intellectual experience for Davidson. He was surrounded by some interesting and lively economists like Basil Moore, Nicholas Kaldor, Richard Kahn, Michael Frances and Ken Gilbricht. More importantly, though, was an emerging professional relationship with Joan Robinson. When they first met Davidson and Robinson would discuss draft chapters of his manuscript Money and the Real World. Some of their discussions, however, became so heated that Robinson finally refused to speak to Davidson about his work. Their discourse continued in written form. When Davidson arrived at his office, which he shared with Richard Kahn at the Faculty building on Sidgwick Avenue, he would usually find a blank sheet of paper with a handwritten question from Joan Robinson. Davidson would spend the morning writing his answer and when Robinson went out for morning coffee, he would put the paper with his answer in her office. When Davidson returned back to his office after lunch he would find Robinson’s comments scrawled over the paper.

Another important relationship in Davidson’s career was his friendship with John Hicks. They met at the International Economics Association Conference on “The Microfoundations of Macroeconomics” in 1975 at S’Agrina, Spain. After the conference, Davidson and Hicks corresponded. Through their correspondence and meetings in London and Hicks’ home in Bloxley, Davidson believes that he had some influence in Hicks’ changing his mind about the importance of the ISLM model. Hicks also influenced Davidson on numerous topics like time, liquidity, contracts and expectations. Davidson particularly points to the influence Hicks had on chapter 3 of his 1982 book International Money and the Real World.

PAUL DAVIDSON'S MONETARY THEORY

Davidson distinguishes Post Keynesian economics (PKE) from the so-called “Keynesian revolution” in terms of five characteristics. First, in PKE, money matters in both the short run and the long run. Second, PKE concerns a “nongeographic” economy, moving from an irreconcilable past to an unpredictable future. Third, according to PKE, given uncertainty over the future, money-denominated contracts are the principal method used to organize production, with money contracts representing a rational means used by individuals to reduce “disquietude” about the future. Fourth, money has two special properties: its elasticity of production is zero, and its elasticity of substitution approaches zero. Finally, according to PKE, unemployment is a natural outcome of a money-using, entrepreneurial economy. Clearly, every one of these five characteristics is related to the different treatment of money in the PKE approach as opposed to the typical “Keynesian” theory of the textbooks. Rather than demonstrating that each of these characteristics is unique to the PKE approach (and foreign to
the "bustard Keynesian" and ISLM approaches, we will focus instead on the distinguishing role that money plays in Davidson's theory.

Many important economic outcomes are nonergodic, in the sense that it is not possible to calculate a probability distribution for alternative events [Davidson, 1978, 227]. At the same time, individuals must take action even when they cannot know (even in a probabilistic sense) the outcome. Perhaps most important, entrepreneurs must engage in time-using production processes on the basis of expectations of future prices, costs, and sales quantities. The most important method used to reduce uncertainty in these situations is to engage in monetary contracts. While in some situations "real" contracts can be written, we usually find that contracts are written in money terms and are ultimately enforceable almost solely in money terms. Money contracts are indeed ubiquitous in all modern economies. Is this a coincidence? Is it due merely to an attempt to minimize "transactions costs"? Do money contracts merely derive from the use of money as a medium of exchange? According to Davidson, the use of money in these contracts can be traced to its essential properties and is not a fortuitous result of the search for the cost-minimizing replacement for barter exchange. Rather, humans invented legally enforceable, money-denominated contracts in order to deal with the unknowable future. Davidson argues that this invention simultaneously freed humans from the "Malthusian" constraints of nature and created for the first time the possibility of involuntarily unemployed resources.

Rather than focusing on money as a medium of exchange, then, Davidson emphasizes the role of money in discharging contractual obligations. Holding money always increases liquidity, defined as the ability to meet contractual obligations as they come due. While one might use money as a medium of exchange, one holds money only in an uncertain world in which a liquid position is desirable — as Keynes rightly asserted, in a world without uncertainty only the insane would desire liquidity, even if the same might use money to facilitate exchange. Money contracts encourage entrepreneurs to undertake time-using production processes that necessarily involve uncertain outcomes. This can encourage economic growth, but at the same time it can generate unemployment because it becomes possible and even desirable to hold money rather than the products of labor.

According to Davidson, the first essential characteristic of money is that it has zero elasticity of production; in other words, entrepreneurs will not hire labor to produce money when the demand for money rises. This is why money becomes a "sink-hole" of purchasing power: if expectations about the future become pessimistic, liquidity preference rises, raising the demand for money and lowering the demand for the products of labor. Since money is not produced using labor, the fall of demand for commodities produced by labor is not offset when money demand rises. Further, the second characteristic of money-neat-zero elasticity of substitution — ensures that no matter how high the demand for money rises relative to its supply, it will not lead to substitution into alternatives to money. This guarantees that there is no process that would tend to push the economy back toward full employment [Davidson, 1978, 144-247].

Like Keynes, Davidson emphasizes that the expected return of all assets which last more than one period is comprised of four elements:

\[ q = c + l + a \]

where \( q \) is the expected yield, \( c \) is the carrying cost, \( l \) is liquidity, and \( a \) is expected appreciation in nominal terms.

Money, the most liquid asset, has a return comprised entirely of liquidity (\( l \)) as it has no yield or carrying cost (and because its price cannot appreciate in terms of itself). At the other end of the spectrum, plant and equipment have a return comprised almost wholly of expected profits less carrying cost (\( q - c \)), where carrying cost can include physical depreciation (while it is conceivable that some plants and equipment could appreciate in nominal terms, this would be quite unusual). Other assets fall between the two extremes.

When liquidity preference rises, the subjective valuation of liquidity (the \( l \) rises, raising the return to holding money. All asset prices then must adjust to equalize expected returns, with the spot price of the least liquid asset — physical capital — falling the most (to raise its \( q - c \)). When the spot price of capital assets falls below the lowest price at which anyone would produce capital equipment for new sales, no more capital is produced, generating lay-offs in the investment sector. As discussed above, the laid-off workers are not able to obtain jobs producing the liquid assets that are in high demand precisely because labor is not required in their production. Unemployment results when the object of desire — money — cannot be produced in sufficient quantities to quell the disequilibrium [Keynes, 1936, 205; Davidson, 1964, Ch.6].

It might seem that Davidson is adapting the typical fixed (or "exogenous") money supply doctrine in his exposition. An increase of money demand does not lead to an increase of money supply, so that interest rates are driven upward and cause unemployment. This is not the case. First, the problem is not simply that the supply of money is fixed — if it were, the central bank could always solve the unemployment problem by increasing the money supply and driving down interest rates. In Davidson's view, the problem really is that labor is not involved in the production of liquid assets, so that this would do nothing to put labor to work even if more money were supplied. Second, Davidson explicitly rejects the exogenous money view, arguing that the money supply can be increased through two entirely different processes: the income-generating finance process and the portfolio change process. The orthodox analysis concentrates on the latter: when the central bank engages in open market operations, it changes bank portfolios (including reserves) which then can indirectly offset the money supply "exogenously" as in the deposit multiplier story.

More importantly, the supply of money can be increased to satisfy the private sector's demand for finance. This is related to one of Davidson's first contributions of PKE which was to revive Keynes' emphasis on a fourth motive for holding money — the finance motive — in addition to the three motives listed in all the textbooks (transactions, precautionary, and speculative). As Keynes had argued, the demand for money is at least partially a function of planned spending (and not simply a function of current income and interest rates) because households and firms (and even governments)
accumulate money in advances of spending. In this case, money demand rises even before spending and income, placing pressure on interest rates. However, so long as banks and other financial institutions accommodate this demand by increasing the money supply, interest rates need not rise excessively to prevent spending from rising. The money supply increases endogenously to finance planned spending. Like Keynes, Davidson emphasizes that this is the normal case; only when liquidity preference rises would the demand for money not be met since this is a demand for liquidity (or, money to hold) rather than a demand for money to spend. Davidson does allow, however, for rising interest rates as spending, or even planned spending, increases — bank accommodation of money demand need not be complete.

Unlike the orthodox approach to inflation, which sees inflation as a result of excessive aggregate demand (perhaps as a result of lax monetary policy that has created too much money), Davidson argues that inflation is always a symptom of struggles over income distribution. Like orthodox economists, he believes that the costs of inflation are significant, and it needs to be fought. However, he argues that a more "civilized" method must be used. Rather than trying to reduce demand, he advocates a tax-based incomes policy to fight "income inflation" as well as buffer stock programs to fight "spot price" inflation.

PAUL DAVIDSON'S INTERNATIONAL MONEY

Another area of policy to which Davidson has devoted considerable effort and which reflects his adherence to the ideas of Keynes is his proposal to reform the international monetary system [Davidson 1991, 1992-1993, 1994; Thirlwall, 1979]. Davidson believes Keynes' proposals at Bretton Woods are the sound basis for an international monetary system. Davidson also believes that a major reason for the global deceleration of growth after 1973 was the replacement of the more-or-less fixed exchange rate system of Bretton Woods with a floating exchange rate system, which increased the degree of Keynesian uncertainty in the world economy.

According to Davidson, the current monetary system generates an equilibrium that is far below world-wide full employment because of built-in stagnationary biases. In the present system the oxus of adjustment is always placed on trade deficit countries, which are forced to engage in austerity measures in an attempt to move toward balance trade. This reduces markets for the products of creditor nations which also reduces employment in these countries. Davidson argues that the move to flexible exchange rates in the early 1970s made matters worse because falling exchange rates in debtor countries generate expectations of further depreciation, and thus lead to destabilizing speculation. The free market cannot resolve this problem, with some agents stepping in to take long positions, because the short view comes to dominate. Only central banks can stop a run if it develops, but this requires concerted action since speculators can easily swamp the intervention that can be mounted by an individual central bank. Further, only surplus nations really have the wherewithal to intervene. These nations, however, generally wish to accumulate as much foreign reserves as possible to maintain liquidity. Thus, Davidson links the international situation to his previous analysis of domestic money and liquidity: accumulation of

the internationally-recognized reserve asset (now the dollar) reduces national uncertainty and ensures that international contracts can be met as they come due, which in turn exerts a deflationary or high unemployment bias to the world economy. The current system encourages export of both unemployment and inflation even as it fuels speculation and instability.

Davidson thus advocates fixed exchange rates to encourage use of longer-term money contracts. He would create an international mechanism to "reflux" liquidity from surplus nations that accumulate international reserves to deficit nations. This would be done through creation of an "international money clearing unit" (IMCU) held only by central banks and used for international clearing. An overdraft system would ensure that countries that were temporarily short of IMCU reserves could borrow from surplus countries. His proposal would place the burden of adjustment on both creditor nations (which would have to "use or lose" their international reserves — spending them for imports, using them for foreign direct investment, or loaning them to deficit nations) and debtor nations (which would be required to make adjustments to reduce trade deficits). Finally, he proposes to ensure that the long-term value of the IMCU remains stable (or perhaps even rises) by forcing each country that experiences inflation to deravage its currency relative to the IMCU.

PAUL DAVIDSON AND AGGREGATE SUPPLY

One area where Paul Davidson has truly been a neglected prophet has been his work in aggregate supply theory.3 Part of the neglect can be attributed to the current version of aggregate supply and demand analysis used in economics textbooks, which differs substantially from the version put forward by Davidson. Drawing from Keynes' original formulation in the General Theory, later formalized by Sidney Weintraub (1958), Davidson's aggregate supply is the function that puts expected sales proceeds on the vertical axis as a function of employment, this is clearly different from the standard AS/AD model in an aggregate price-quantity space. Davidson initially presented his version in his 1962 Economic Journal article [Davidson, 1962] and developed it more fully later in his book Aggregate Supply and Demand Analysis [Davidson, 1964] with his first collaborator Eugene Smolensky.2

On the surface the Davidson version resembles the much derided Keynesian cross model. But, as noted by Colander [1992], it differs by having explicit microfoundations built into the curves. Davidson's version also expresses the curves in money wage units. This allowed him to understand the significance of wage-price (cost-push) inflation, today labeled supply-side inflation, well before the Old Keynesians or monetarists who emphasized excess aggregate demand as the main cause of inflation prior to the oil price shocks of the 1970s. This concern with supply-side inflation became the basis for what are probably the best known and most durable of Post Keynesian policy prescriptions, incomes policies.

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DAVIDSON’S CONTRIBUTIONS TO ENVIRONMENTAL AND NATURAL RESOURCE ECONOMICS

One of the least known aspects of Paul Davidson’s career is his role in environmental economics. Curiously this arose initially from his foray, immediately after graduation school, into the world of corporate economic advising for the Continental Oil Corporation in 1960-61. Drawn by the prospect of a generous salary for a young family, Davidson advised the corporation’s president and helped him with publicity releases. Given the generally leftist reputation of Post Keynesian economics, many may find this episode in Davidson’s career surprising. However, he has always been a supporter of market capitalism, if not of its laissez-faire variety, and has respected the earnings of hard-working entrepreneurs. At Continental Oil he was nearly fired from his position when he forecast that the company would do better financially if Kennedy won the 1960 U.S. presidential election. When Kennedy subsequently won and the company did well, Davidson’s stock rose in the eyes of the company’s president and his advice was sought after until he and his wife Louise, tired of the corporate political environment, returned to academia at the University of Pennsylvania.

This experience at Continental led to a major article (Davidson, 1963) on domestic oil policy, and during the 1970s Davidson continued to write articles in environmental economics as well as testifying frequently before congressional committees on environmental issues. Needless to say, it is not hard to see a link between this research and his early and insightful willingness to consider the possibility of post-push inflation and his consideration of methods of dealing with inflation in the form of incomes policies.

Another spinoff of Davidson’s experience at Continental was his participation in some of the earliest studies of the recreational demand for water resources (Adams, Davidson, and Seneca, 1986, Davidson, 1967, Clachett, Davidson, and Seneca, 1969) which contributed to the development of important methods for valuing non-marketed goods that have since become standard in environmental economics.

Davidson further contributed to environmental economics when, as Chair of the economics department at Rutgers, he built up one of the first programs in the United States in environmental economics. Many of the first environmental economists to be hired around the United States in the 1970s were products of the Rutgers program and Paul Davidson’s influence. During the same period, Davidson established Rutgers as the main center for what would be known as Post Keynesian economics by hiring such figures as Alfred Richter, Jan Kregel, and Nina Schapiro.

Staring Off Sinners

While Davidson is, of course, a founding member of the heterodox group known as the Post Keynesians (or, as Davidson has called them, fundamentalist Keynesians), not all of his views are shared by all Post Keynesians. A good example of this is with Davidson’s long-time friend, Hyman Minsky. In his review of Money and the Real World, Minsky commented that the “weakness of Davidson’s argument is due to his insistence upon integrating the General Theory and A Treatise on Money” (Minsky, 1974, 7). In Minsky’s view, the Treatise adopted a Marshallian, equilibrium, approach which is quite inconsistent with (and irreconcilable with) the cyclical nature of the analysis of the General Theory.

More generally, Minsky and other institutionally oriented Post Keynesians insist that theory must take in account custom, usages, rules, inherited portfolios, size and role of government, conventional beliefs, and subjective expectations that together determine the “transitory and temporary system state” as the economy cycles between boom and bust. Minsky argued that his version of Post Keynesianism provides a specific theory based on the institutions of modern capitalism. In contrast, Davidson rejects both the methodology as well as the conclusion of this sort of approach. He has argued that he follows the approach of the General Theory, which “developed a more general theory than the classical one...” (Davidson, 1994, 28). Davidson argues that neoclassical general equilibrium analysis is simply a special case theory which has three more axioms than Keynes’ General Theory. Davidson’s method, then, is to provide the most general theory that allows for money contracts, nonpecuniary uncertainty, and the special characteristics of money. He then shows that such an economy may reach equilibrium before resources are fully employed. However, this equilibrium need not be unstable; indeed, Davidson objects to Post Keynesian analyses that emphasize instability, arguing that real-world capitalist economies are remarkably stable.

As Davidson puts it, Minsky can be characterized as a Keynesian pessimist who sees the financial market glass as half-empty and fragile. He considers himself to be an optimist who sees the glass half-full and fairly stable.

Another important professional rivalry in Davidson’s career has been with Nobel Prize winner James Tobin. In many ways, one would think that Davidson and Tobin would be walking side by side down the Keynesian path. They are both interested in many of the same issues: the desirability of full employment, the importance of money and financial markets, international economics, and social justice. Also Davidson credits Tobin for being a lone voice out in the economic wilderness warning the profession of the dangers of flexible exchange rates and free international financial markets. Tobin’s response to his concerns about free international financial markets has been his “Tobin Tax” which would constrain international financial market flows. Davidson has criticized Tobin’s tax for not going far enough (Davidson, 1997). But the primary issue of difference between them, according to Davidson, is that Tobin does not follow Keynes. Davidson claims that instead of following Keynes and questioning certain fundamental axioms of the classical theory, Tobin has incorporated them. This logically leads Tobin, Davidson believes, to an explanation of involuntary unemployment that consist of supply conditions caused by inflexible wages and prices. Davidson argues that Keynes, while holding onto instantaneous flexible wages and prices, recognized that certain fundamental classical axioms needed to be overthrown to achieve a more general theory of employment. By doing this, Keynes was able to show that Say’s Law does not hold (i.e., supply does not create its own demand) and that it is the determinants of aggregate demand and the demand for liquidity instead of inflexible wages and prices that are the general conditions for unemployment.

Davidson’s second major criticism of Tobin is that his policy implications, similar to his economic theory, are contrary to Keynes. Davidson argues that Keynes be-
lieved in permanent government policies where Tobin’s conclusions lead him to only short-run government efforts such as creating more price flexibility and deregulation. Overall, Davidson’s criticism of Tobin is similar to his criticism of both the Old and New Keynesians which can be captured in Davidson’s challenge to them and others:

If economists would only take up the challenge of Keynes’ revolutionary general theory and investigate the properties of a system of microeconomic demand and supply functions that has thrown out the axioms of ergodicity, ubiquitous gross substitutability, and non-neutral money, then a truly New Keynesianism—dare I say it Post Keynesian economics—could be developed which could again permit economists to provide useful and realistic guides to both micro and macroeconomic policies. This would be a New Keynesianism that Keynes could readily endorse. [Davidson, 1994, 302]

WHY HAS PAUL DAVIDSON BEEN NEGLECTED?

In his essay honoring Davidson, Colander [1996] compares him to Paul Newman in Cool Hand Luke and declares that both Pauls are handsome, suave and have a strength of character that is unbreakable. And both suffer from a major failure to communicate [ibid., 22]. Colander then carries out a translation of Davidson’s views into a more standard form, thereby presumably resolving the communication problem. But, we suspect, as Colander himself realizes, Davidson probably has little use for this solution. The problem runs deeper. A more important reason has been the recent trend in ideology, politics, and policy viewpoints. Despite his pro-market capitalism, Davidson’s policy positions put him towards the left end of the political spectrum, and as general views have shifted towards the right, his views have become increasingly isolated and unfashionable. Although he was never a fan of the Soviet system, its collapse has spilled over to discredit many of the Western European economies that viewed themselves as the civilized halfway houses between the United States and the Union of Soviet Socialist Republics. Some of these, such as Sweden, were the clearest and most successful homes of incomes policies in the form of nationwide collective bargaining and generous social safety nets that fitted the Post Keynesian mold and fit the vision put forth in Davidson and Davidson [1989] of a civilized economy and society. Now many of these nations seem to have lost their moorings and are moving away from these policies and imitating the U.S. system to varying degrees, although some such as Denmark, Norway, Austria, and especially the Netherlands seem to be resisting the trend and doing reasonably well. This also reflects itself in the ascendance of the Mankiw variety of New Keynesianism in the aftermath of the weakening of the New Classical influence [Mankiw and Romer, 1991]. Davidson is almost certainly right that this approach probably has more in common with the New Classicalism, with which it competes, than it does with the non-ergodic Keynesian-Post Keynesian of Paul Davidson. And this ascendance is not unconnected with the broader political and policy currents mentioned above, symbolized by the rise of such politicians as Bill Clinton and Tony Blair whose New Democrat and New Labour views do not fit in with those of Davidson.

And finally, there has been his “holding their feet to the fire” by criticism of many of those who would be his allies, but whom he finds, rightly or wrongly, to be insufficiently Keynesian. Here is Paul Davidson’s greatest weakness and also his greatest strength. As the truest Keynesian he becomes isolated and neglected in the purity of his viewpoint. At the same time, by clearly defining and holding a strongly-held position he may have a longer and more significant influence. In the future when people seek an interpreter of Keynes who gives them the real thing, aside from the writings of the master himself, it will be to the writings of Paul Davidson they will turn. In this sense, Paul Davidson, by losing in the short run, will win in the long run.

NOTES

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1. See Arati and Chak [1992], Lewis [1992], and Arati [1996] for perspectives on at least some of the 57 varieties of Post Keynesian economics.

2. That he has not gone completely unrecognized in this regard can be seen in his having been asked to write the entry on “Aggregate Supply” for the New Palgrave A Dictionary of Economic Theory [Davidson, 1987].

3. Eugene Smolenky was a fellow graduate student of Paul Davidson at the University of Pennsylvania.

4. Greg Davidson is Paul’s third son and is an administrator at NASA, not a professional economist.

REFERENCES


Reflections

David Schwartzman
New School for Social Research

David Schwartzman, well-known as a student of industrial organization, has been a Professor of Economics on the Graduate Faculty of the New School for Social Research since 1960. A graduate of McGill, he received his Ph.D. from the University of California at Berkeley and has taught, as well, at Columbia and NYU.

The Growth of Inequality

Income Inequality, Earnings, and Employment

Studies of the distribution of income have found growing inequality since the 1980s (Radin, 1991; Congressional Budget Office, 1985, 38), and wage studies have reached the same conclusion (Ahn, Murphy, and Pierce, 1990, 410-11). Moreover, between the 1950s and 1990-1995 unskilled unemployment rose from 5.4 percent to 8.3 percent, while skilled unemployment rose from 2.6 percent to 4.2 percent (Appendix A). The differences between the unskilled and skilled unemployment rates by decades were as follows: 1950-59: 2.8; 1960-69: 3.2; 1970-79: 3.3; 1980-89: 5.3; 1990-96: 4.1.

Wage inequality and unskilled unemployment increased despite the growing supply of skilled workers resulting from the increase in the number of college graduates. Most wage-employment studies attribute the growth of wage inequality to a rise in the relative demand for skilled workers large enough to overwhelm the effect of the expanded relative supply (Schwartzman, 1997). An indication of the rise in the relative demand is the increase in the unskilled-skilled difference in unemployment.

Katz and Murphy (1992) interpret the rise in the employment and earnings of college graduates relative to nongraduates to confirm the relative-demand hypothesis. They ascribe the rise in the college premium in the 1980s to the small increase in the number of college graduates that decade (bid., 50) compared to the preceding decade. They suggest that a steady climb in the relative demand for skilled workers combined with a slowdown in the growth of the supply increased their relative earnings. Katz and Murphy suggest that skill-biased technological change, changes in prices of nonlabor inputs, and the growth of imports were the sources of the increase in relative demand. They suggest that technical and price changes caused the within-industry skill shifts, but they provide no evidence. Their analysis of inter-industry shifts in demand leads them to conclude that imports had a small effect on wage inequality.

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