

THE POST KEYNESIAN APPROACH TO POLICY ISSUES

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I. Introduction

Post Keynesian economics is mainly a school of macroeconomic thought (see Davidson 2005). It has focused on issues such as financial instability, exchange rate regimes, unemployment trade deficits, economic growth, and inflation, and has made significant contributions to the policy debates in these areas. Unfortunately, Post Keynesians have virtually ignored microeconomics, making them AWOL on key policy issues like health care, crime, poverty, education, and productivity growth.

The goal of this paper is to begin to remedy this gap in Post Keynesian thought. It outlines the main principles of the Post Keynesian approach, explains how they can be applied to microeconomic issues, and draws out some policy conclusions that differ markedly from neoclassical theory.

II. The Post Keynesian Approach

Five somewhat inter-related facets of Post Keynesian thought are relevant here: (1) a recognition that the future is uncertain, rather than being known or known with some probability distribution; (2) individual decision making as being dependent on social factors, such as habits and emulation, rather than on individual rational choice; (3) economic analysis that examines economies that move through historical time rather than economies that effortlessly reach some equilibrium point; (4) a recognition that markets

are imperfectly competitive in the real world; and (5) a focus on income effects rather than on substitution effects.

(1) Uncertainty versus Risk

One important characteristic of the Post Keynesian approach is its focus on uncertainty rather than risk in the real world.

Frank Knight (1971[1921]) grappled with the differences between risk and uncertainty in the early 1920s. He argued that risk involved measurable probabilities whereas uncertainty involves unmeasurable and unknowable probabilities. Knight suggested that we can insure against risk but not against uncertainty. We can know the chance that a 40-year old man will die in the next year; and we can know the probability that a hurricane will hit land in Florida and cause damage because we have a good set of past observations about these events. For this reason private firms can provide insurance against these catastrophes. However, past evidence is no guide when events happen infrequently or when dealing with situations that extend far into the future. We don't know the probability that the US will declare war on Iran in the next six months or what the price of oil will be 20 years from now.

Following Knight, for Keynes (1973[1921]) the difference between risk and uncertainty depends on whether we can calculate probabilities. Keynes (1964: Ch 12) applied this distinction to the question of investment, arguing that investment decisions do not depend on an objective assessment of probable outcomes and the profitability of each possible outcome. Rather, firms operate under uncertainty, and investment decisions must be based on "animal spirits" or the average state of confidence.

Rosser (2001) points out that Post Keynesians have developed two main arguments that uncertainty plays a large role in many real world decisions. First, Brian Loasby (1976) and George Shackle (1955, 1972, 1974) argued that the world itself is unpredictable and constantly changing, and this is the main source of uncertainty—we never know when things will change or how they will change. Davidson (1991, 1994, 1996) provides a scientific defense of this view. Systems are ergodic if their structure remains stable over time. In this case, we can extrapolate from the past to the future. Non-ergodic systems experience structural change over time. It means that people cannot figure out what the future will be like. Second, some Post Keynesians (Arestis 1996; Carabelli 1985) see uncertainty arising because people can never be certain about the expectations or the behavior of others.

Uncertainty arises in many policy areas. Arrow (1963) noted that health care markets were plagued by uncertainty, contributing to a less than perfect outcome, and he identified two main types of uncertainty in health care—uncertainty in demand (firms never know how much health care will be needed at any give time) and uncertainty regarding effective treatments (we still don't know the best way to treat diseases for particular individuals). To this we can add some other way that uncertainty arises in the area of health. Few individuals are medical experts, and they do not have the knowledge to challenge the advice of health care professionals. They also lack the expertise to judge which doctors are better than other doctors. People also do not know whether their doctor has financial ties to drug companies, research centers or hospitals, and whether they recommend tests and treatments because they are in the best interests of the patient or the

financial interest of the doctor. In the face of such uncertainty, people follow rules, watch what other people are doing, consult experts, and rely on past habits and “animal spirits”.

(2) Social versus Economic Rationality

One consequence of uncertainty is that people are not rational in the traditional economic sense of the term; this is why they follow procedural rules, habits and social conventions. Social interaction models go one step further; they recognize that individual behavior depends not just on gains, costs and risk assessment, but also on the behavior of one's peers. Such a view of human behavior underlies Post Keynesian economics. One famous example of this is Keynes's (1964: 156) analysis of investment as a beauty contest, where the winner is not the one who picks the most beautiful contestant but the one whom others think is most beautiful.

Post Keynesians have questioned whether people behave according to the dictates of “rational economic man”. There is a great deal of empirical evidence that people are not the rational beings assumed by neoclassical thought. For example, rationality entails that people should never vote, since the expected gain from voting is effectively zero while there are significant costs to voting. There is also evidence that people behave altruistically rather than selfishly at times; many sacrifice their lives for others (Pressman 2004).

There are logical, as well as empirical, problems with the notion of economic rationality. This is clearest in the prisoner's dilemma, which shows how two individuals pursuing their own best interests wind up in a less than optimal situation. In the typical prisoner's dilemma, two accused men are captured and put into separate rooms. If neither confesses to their crime, they are forced to go through a lengthy and expensive

trial but are likely to get acquitted and go free. If both confess, they each get moderate prison terms. If one confesses and the other does not, then the one who confesses gets off without any penalties while the other prisoner faces a long jail term.

Prisoner's dilemmas are common in everyday life and in economic life. They are the heart of the free rider problem. Like the prisoner who confesses, the free rider does not pay to support community services that everyone regards as desirable, such as clean and safe streets, figuring that everyone else will contribute and that one less contribution will have no effect on how clean and safe our streets will be. But the aggregate outcome of free riding is a lack of community services that everyone desires.

The prisoner's dilemma shows that rational and self-interested choices can lead to sub-optimal outcomes because of the behavior of others. So too does the paradox of thrift, where as Keynes showed what is true of each single individual may not be true of the whole. Following Keynes's (1964 [1936]) analysis of financial markets, Post Keynesians recognize that fallacies of composition can arise in the real world, and that this is one reason herd behavior is prevalent in the real world.

This social approach to behavior has important policy implications. A social approach to the decision to engage in criminal activities recognizes that the propensity to commit a crime is a function of more than individual incentives and a willingness to take risks. It introduces into the analysis things like weak socialization, difficulties dealing with other people, and deficits in vocational and employment skills (Andrews 1995). Moving beyond the individual, it looks at peers, the community, and society in general. For example, a sense that the economic system is not fair to the average person, or a sense that everyone cheats or defects, can generate social norms that crime is justifiable

and a reasonable response to an unfair system. This means that severe penalties like the death penalty are unlikely to be effective deterrents. Moreover, if penalties are imposed unfairly (for example, if blacks and the poor are more likely to receive the death penalty), by contributing to feelings of unfairness, the death penalty may actually lead to *more* crimes being committed.

(3) Historical Time versus Equilibrium

Joan Robinson (1974, 1976) and Nicholas Kaldor (1985) both believed that economies could not be described in terms of some equilibrium toward which the economy is headed and which will be stable once achieved. There are two main reasons for this. First, things change all the time—goods, production technologies, etc. So even if the economy were to achieve equilibrium at one moment in time, the moment will be gone since the world is always in a state of flux or change. Second, given uncertainty, individual choices will always be changing.

Instead, Post Keynesians have suggested that economists focus more on how economies evolve over time. Historical time differs from logical time because it acknowledges that time is irreversible and recognizes that the path we take helps determine economic outcomes.

If we are in historical time, and make a mistake, we cannot go back in time and make a better decision. Decisions made now cannot be reversed, except maybe at a great cost. The long period is thus a sequence of paths taken in the short period and does not exist independently of these paths. One famous example of this is the adoption of the QWERTY keyboard, which slows down typing. When people typed on old typewriters, with individual keys, the keys would sometimes hit each other and stick when one typed

too quickly. In this world such a keyboard layout made sense. However, once everyone learned to type on such a keyboard it made sense to continue using it, even when computers replaced typewriters and there was no longer any reason to slow typists down a bit in order to keep keys from jamming while typing.

History matters in a number of ways. Following Georgescu-Roegen (1966), Post Keynesians recognize that choices are path dependent and that our current choices depend of what choices we made in the past. Buying a car requires purchasing gasoline and car insurance and parking spaces and highway tolls in the future, while the decision to forgo buying a car requires the purchase of mass transit and car rental services in the future. At times, the short-run rational decision leads to long-run outcomes that are not utility maximizing. For example, although buying a car may have been the best (i.e., utility-maximizing) decision when it was made at one point in time, this does not mean it is the best decision in the long run, as gasoline prices soar unexpectedly.

Another way history matters is that our tastes are a function of our distant past as a human race, and so may not be optimal. For example, survival in the past required eating voraciously when food was present since one could never know where the next meal would come from. Our ancestors who gorged themselves on food when it was available were better able to survive. These dispositions became part of the human genetic make-up. Today we have eliminated the uncertainty about whether food will be available next week and next month, but not our dispositions concerning food. The result is an epidemic of obesity, as individuals find themselves unable to control their urge to eat as much as possible. Neoclassical analysis, which holds people responsible for their decision to overeat, and neoclassical policy solutions, which seek to create disincentives

for this behavior, ignores the historical origins of our behavior and assumes that the right incentives will help solve the problem. Of course, incentives can help; the question is the extent to which they help and the circumstances under which they help.

This has important implications for policy. Growing up in a poor family and in a poor area, makes it more likely that children will attend poor schools and become poor adults. So path dependence is important when analyzing poverty; it is not just a matter of individual incentives and choices. In addition, families may have strong preferences for schools that are close by, just as our ancient ancestors wanted their children nearby-- greater proximity increases the chances that children will survive. If this results in parents selecting to send their children to poor schools close to home, this defeats the neoclassical policy solution of school choice as a means of solving major defects in the US educational system.

(4) Imperfect Market Structures versus Perfect Competition

History is also important because institutional structures develop historically and, once in place, are hard to reverse. This is especially true of market structures. This leads to the fourth main tenet of Post Keynesian economics—the existence and benefits of imperfect competition.

The Post Keynesian economic world is comprised of large oligopolistic firms that control the market and are not subject to the dictates of consumer demand (Eichner 1976; Galbraith 1967). Rather, large firms mold consumer preferences and choices. A large part of the reason firms can do this is that, contrary to neoclassical theory, Post Keynesians do not see consumers as knowing what they want to consume. So they look to the environment for clues. In this way, advertising can affect tastes and preferences.

Moreover, there is some sort of bandwagon effect when some people's preferences are changed and others want to follow suit. Also, in a modern technological world, where communicating via the most advanced technology is important, what other people have and use becomes crucial when I make my decisions about technology. In a world of large firms and sub-optimal outcomes, state action is frequently necessary.

The neoclassical approach also ignores the benefits of imperfect market structures. It focuses on the efficiency of greater competition; but competition also has its inefficiencies (Galbraith 1967). Large firms make a good deal of profit, and large firms can use this money to invest in new technology and increase their profits even more. In contrast, small firms with meager profits, and little access to capital, have few resources to invest in new technology and innovation.

Given the large costs and the high degree of uncertainty in the process of developing new products, it is natural that firms will seek to develop market power and try to influence consumers. Galbraith (1967) argued that large corporations seek to manage demand for their products in order to mitigate the uncertainties of the market and the uncertainty associated with large investments in research and development. Even if only a small fraction of consumers are influenced by the advertising itself, other consumers will be influenced by what they see others doing. This, as we have seen, rather than neoclassical rationality, is how most people actually make decisions.

Nowhere is this clearer than with drug companies. The US has granted monopoly power to drug firms. This generates monopoly profits that sustain the economic power of these firms. Power is maintained through advertising to consumers, through financial incentives to physicians, through political contributions to politicians, and through anti-

competitive practices that deter other firms from entering the market and competing. These firms do not compete based on price; instead, they target the psychological needs of consumers and seek to distinguish their drug from other drugs on the market. They advertise to consumers by going over the heads of doctors, who are supposed to be the experts and supposed to prescribe medication for their patients (Abramson 2004). They make people believe they have some chronic condition that requires lifetime treatment with drugs (Moynihan & Cassels 2005).

In brief, drug companies are monopolistic marketing firms. Reinhardt (2004: 108) notes that marketing expenditures by drug companies exceed R&D expenditures by a factor of more than two to one. However, the problems are worse than this. Large R&D expenses go to what are called “Phase IV studies”. These are studies of approved drugs already on the market, and are designed to learn about possible additional uses of the drug. Once a drug is approved by the FDA, doctors can prescribe it for whatever they want. Phase IV expenses are mainly payments to doctors to prescribe a drug for new uses and then report back to the drug company (Angell 2004: 39, 157ff.).

(5) Income and Substitution Effects.

Finally, there is the issue of income and substitution effects. Neoclassical economists see substitution effects as of paramount importance, sometimes to such a degree that they exclude all income effects. Economies are seen as supply constrained, and incentives become important to assure that scarce resources get used efficiently.

In contrast, Post Keynesians see income effects as more important than substitution effects (Davidson 2005: 459). This is the essence of Keynes’s (1964) rejection of Say’s Law in *The General Theory* and his theory of effective demand. This

means that for Post Keynesians creating income and spending are what matters most for generating full employment, which via the multiplier process generates more income, spending and employment. This then helps generate a virtuous cycle of economic and income growth. At the macroeconomic level this means that investment determines savings rather than savings determining investment. Investment is not constrained due to insufficient savings; rather, investment is constrained by the social and psychological forces in the real world that keep firms from expanding.

There are important microeconomic applications of this idea. Consider the issue of crime prevention. Criminals with drug habits or gambling debts may need to acquire a fixed sum of money. For these people, the problem is not choosing between crime and legitimate employment; rather, the problem is insufficient income. Putting more resources into crime prevention will reduce the expected returns from criminal activity. But as Nell (1994) points out, this can have perverse effects. Having more police on the streets and increasing enforcement efforts will reduce the supply of illegal drugs. But this raises the price of drugs and leads to more crime, since addicts must now steal more in order to feed their drug habits. Increased penalties also result in greater incentives for criminals to bribe law enforcement officials, and with greater incentives, law enforcement officials are more likely to accept bribes. In this case, crime will not fall; rather, there is more crime (bribery and attempts to cover-up the bribe). Moreover, greater penalties provide greater incentives for criminals to threaten witnesses, making it harder to get eyewitnesses to testify in court.

III. Policy Implications

As noted in the previous section, the main Post Keynesian principles can readily be

applied to a number of microeconomic issues. Doing so leads to very different policy conclusions than what we get from neoclassical theory. In what follows, we look at the issues of health care, crime and productivity growth in some detail. Pressman (2007a, 2007b) draws out the policy implications of bringing Post Keynesian principles to debates surrounding poverty and education policy.

(1) *Health Care.*

When thinking about health care, imperfect competition and income effects become important driving principles for developing a Post Keynesian approach to health care policy.

Given the existence of large firms with a good degree of market power, Post Keynesian approach to health care would focus on a regulatory response to controlling health care spending and costs. This response consists of three parts—independent regulatory agencies, controls on advertising drugs, and price controls. Regulatory agencies need to be independent of the drug companies. Government bodies that make important decisions about public health and safety should not be supported by pharmaceutical companies, and individuals who make key decisions should not benefit from them financially. In the US, this is presently not true of the Food and Drug Administration. We prohibit such conflicts of interest for politicians and central bankers; regulatory officials should be held to the same standards.

Neoclassical economists generally regard advertising as benign. It just provides information to the consumer. It cannot manipulate consumer tastes and preferences since these are known to the individual and given to the individual. Following this line of reasoning, pharmaceutical company advertising informs and empowers patients. But as

Moynihan & Cassels (2005) show, pharmaceutical companies typically hide the dangers of drugs from consumers and the FDA, extol the virtues of drugs with few or no benefits, and then use advertising to create fears so that consumers will see their doctor to get prescriptions for expensive medications. From a Post Keynesian perspective, marketing is not designed to provide information to consumers. Rather, as Galbraith (1967) notes, it is designed to aid the planning of the firm and manipulate the consumer. Thus, a Post Keynesian health care policy would support a ban on drug advertising in the US similar to the ban that exists in virtually every other developed country in the world. Drug companies should not be able to advertise directly to consumers and should not be able to influence the decisions of doctors. And doctors, like government regulatory agencies, should not face conflicts of interest when prescribing medication, running diagnostic tests, or providing treatment.

Post Keynesians have supported controls on prices as a means of controlling inflation. As Galbraith (1952) argues, large companies already control prices, and it is not hard for the government to control things that are already controlled. When most R&D for new drugs is funded by the US government and the government gives drug companies a monopoly on new medication, they should be able to negotiate lower prices for the consumer. The market is already distorted. Controls merely put the power of the government against the power of large drug companies. Currently, the US is the only developed nation that does not control drug prices. In Canada the rule is the prices cannot exceed the median price of seven other developed nations when first introduced and can then only increase with inflation. The result is that drug prices in Canada are half to two-thirds of US prices (Angell 2004: 219f.). Lipitor, the top-selling pharmaceutical product

in the US in 2003 cost \$1.81 per tablet in the US. But in Canada, the cost was only 99 cents; in the UK, Lipitor cost 90 cents per tablet; and in France, the cost was only 67 cents. On average, for a set of 30 drugs, prices were 52% lower in Canada, 59% lower in France, and 47% lower in the UK compared to the US (Andersen *et al.* 2004).

Finally, Post Keynesians should oppose health savings accounts (and flexible spending accounts), the policy option supported most enthusiastically by neoclassical economists for dealing with rising health care costs. These accounts require that individuals save for future medical expenses, and give individuals tax deductions as a reward for saving. With consumers now paying for the entire cost of their health care, it is assumed that they will be more cost conscious and help bring rising health care costs and expenditures under control.

One problem with this policy solution is it is not likely that low-income households will be able to put a good deal of money into health savings accounts since they have accumulated little wealth and they need most of their annual income for day-to-day survival. In addition, the main benefits of health care savings accounts go primarily to wealthy households in high tax brackets. Putting \$5000 into a health savings account costs only \$2500 for someone in a 50% tax bracket, but \$4000 for someone in a 20% tax bracket. Looking at this another way, the government pays for a larger portion (50%) of health savings account contributions by wealthy households than other households.

Finally, Post Keynesians should worry about the macroeconomic consequences of health savings accounts. If households actually do save more as a result of health savings accounts, this will just raise unemployment. Since high unemployment leads to inequality and poverty (Galbraith & Garcilazo 2007; Pressman 2007b), and since poverty and

inequality are known to cause health problems, these policies are likely to have the perverse effect of generating more health problems and more spending on health care.

(2) *Crime.*

Concerning crime, recognizing social rationality, uncertainty, and the importance of income effects should lead Post Keynesians to a very different analysis and very different policy conclusions from neoclassical theory. As noted above, moving beyond the individual, a Post Keynesian approach looks at peers, the community, and the entire economic fabric as contributing to crime.

Akerlof & Yellen (1994) take this social view of individual behavior and develop a model of crime that dovetails in many ways with the Post Keynesian approach. Their model points to the problem with focusing exclusively on individual incentives and rational choice. Akerlof and Yellen note that for police to solve crimes they need help from the community—tips, eyewitness testimony, and cooperation with the police. If penalties for criminal acts are thought to be too severe and unfair, then people in the community will be less likely to cooperate with the police and so it is less likely that criminals will be caught. Their model of criminal behavior has a high-penalty, low-cooperation equilibrium, and also a low-penalty, high-cooperation equilibrium. In contrast to the neoclassical approach, this means that severe penalties (like the death penalty) are unlikely to be effective deterrents. Moreover, if the penalties are imposed unfairly (for example, if blacks and the poor are more likely to receive the death penalty), then by contributing to feelings of unfairness the death penalty may actually lead to more crimes being committed.

Social aspects of individual behavior have even been introduced into neoclassical models of taxpayer compliance and have received a good deal of empirical support. Frey (1997) argues that increasing penalties may reduce or “crowd out” external motivations to pay taxes and so may increase tax cheating. Supporting this view is the experimental work of Scholz & Lubbell (2001), which finds that cooperation declines significantly when penalties are introduced. Likewise, Levi (1998), Slemrod (2003) and Torgler (2003) find that perceptions of fairness and trust in government are more important than economic incentives in determining whether people cheat on their taxes. One interesting consequence of this view is that low (marginal) tax rates, by contributing to inequality and to perceptions of unfairness, may actually *increase* cheating on taxes.

In contrast to neoclassical policy solutions, a Post Keynesian approach to crime points to the need for policies that aid low-income households and increase opportunities for the children of low-income households. Again, it focuses more on income effects than on getting incentives right. This means more government programs such as WIC and Head Start, which provide food and education assistance to poor families with children. It also points to the need to spend more money for the education of those who begin life with disadvantages.

The good news is that such policies are likely to pay for themselves in the long-run. In a recent attempt to quantify just a small part of these gains, Harry Holzer *et al.* (2007) culls the results from numerous previous studies. This paper finds that the cost to the US of childhood poverty amounts to around \$500 billion per year, or 4% of US GDP. The costs involve reduced productivity, more unemployment, greater incarceration, and greater government benefits. One implication of this study is that a relatively large

redistribution to low-income households would effectively pay for itself on an annual basis.

The neoclassical view of tough punishment to deter crime also goes wrong by focusing exclusively on incentives to keep rational people from committing crimes. If there is uncertainty about capture and about serving time, and if these outcomes depend on community involvement, the excessive penalties will not do the job of preventing crime. Rather, from a Post Keynesian perspective the goal should be to help individuals to develop skills and help people get jobs so that they can receive decent incomes and become functioning members of society. In addition, denying education and training to inmates because of fears that it would *encourage* crime, ignores the fact that time in jail reduces job skills and the possibility of getting a job upon release, while at the same time increasing “criminal human capital”.

Many government programs designed to help reintegrate offenders back into society have been shown to be effective. In a quasi- controlled experiment, Saylor & Gaes (1992) found that prisoners given job training, and those who work in prison, have better employment experiences after release than those in a control group. Meta analyses of juvenile delinquency (Lipsey 1992) and rehabilitation programs (Andrews *et al.* 1990) find that these programs reduce criminal activity, but only by a small amount. In a comparative analysis of several programs, Lipsey (1992) found that employment programs were most effective in reducing recidivism. Tremblay & Craig (1995) report that parent training and support programs, especially those with intensive intervention, reduce youth crime. Substance abuse treatment programs, and prison work programs,

have also been shown to reduce recidivism and promote social behavior (Gaes *et al.* 1999).

Supporting the importance of jobs, income and skills, the Transitional Aid Research Project (TARP) was a randomized experiment to test the effects of income supports for ex-offenders in Texas and Georgia released from prison in 1976 to 1977. Although these supports did not reduce recidivism, employment and legal earnings were found to have strong and significant effects on recidivism rates (Needels 1993). These effects are stronger the greater the human capital possessed by the individual and the more education they have (Needels 1996).

Finally, a large body of evidence suggests that recidivism falls when inmates have access to college (Adams *et al.* 1994; Fine *et al.* 2001; Lipton *et al.* 1975; Rose 2004). In the 1960s and 1970s, US social policy actually focused on helping individuals in prison become functioning members of society by providing them with education and job training. The 1972 Pell Grant program provided tuition assistance to low-income students and became the main source of funding for college-in-prison programs (Erisman & Cortardo 2005). But since the 1980s, neoclassical economics has impacted policy and a “get-tough” attitude has prevailed at all levels of government; as a result, politicians fear being accused of being soft on crime. The 1994 Violent Crime Control and Law Enforcement Act denied Pell Grants to prisoners. College-in-prison programs quickly fell from 772 in 1992 to 170 in 2006, as 25,000 prisoner-students lost their main source of funding. Based on its cost-effectiveness alone, there is good case for restoring Pell Grant funding for those in prison and for increasing spending on college-in-prison programs (see Foster & Sanford 2006).

(3) *Productivity.*

A Post Keynesian approach to productivity growth would focus on the importance of income effects rather than substitution effects for productivity growth, as well as the social notion of rationality and the importance of historical time.

Productivity, more than anything else, determines the standard of living for a country and the average household, and it is productivity growth that determines how much living standards grow on average. The neoclassical approach to productivity growth relies on market signals generating incentives for firms to produce goods efficiently and for workers to be more productive employees. This approach ignores income effects, and ignores the fact that productivity may be a social phenomenon to a large extent.

Adam Smith [1776] noted many years ago that productivity improves when firms can divide tasks, when individuals can specialize in narrow duties, and when machinery can then be employed to assist workers in their jobs. This is possible, however, only when firms sell a sufficient quantity of goods to justify both the capital investment and the restructuring of production. For Smith, the greater the extent of the market, the more the firm would sell and the greater the productivity of workers.

This idea remained dormant in economics until the early 20th century when Allin Young (1928) argued that many industries operate under conditions of increasing returns to scale. As more and more gets produced, costs fall because fewer resources are used to produce each good. Increasing returns thus means that productivity grows as output expands. Thus, during times of slow economic growth, productivity will not grow by

much. Following Smith, Young thought that greater sales would also lead to the greater use of automation and increasing returns to scale.

In brief, for Smith, for Young, and for Post Keynesian economists, it is the growth of demand that determines productivity growth. When unemployment is low and the economy is booming business firms must figure out how to use labor more efficiently. This is just a minor concern in times of high unemployment. When economies experience recessions, firms focus on maintaining sales and surviving the difficult economic times. They need to think about cutting costs in the short run rather than issues of long-run growth and profitability. Laying off workers or curtailing hours becomes more important to the firm than using the existing labor force more productively. In contrast, during booming times, firms do not need to concern themselves with keeping afloat. With increasing sales and labor shortages, firms need to think about using workers more efficiently (Sylos-Labini 1983-84).

A second reason that productivity growth is demand driven stems from the nature of productivity in a service economy. For most service firms, demand is the main determinant of worker productivity. Consider a symphony orchestra. The productivity of the orchestra does *not* depend on how fast the musicians can play a piece or a few pieces of music. Rather, the productivity of the orchestra can only be measured by the amount of money that they take in via ticket sales. When the economy is doing poorly, and people are reluctant to spend money, they don't go to the symphony. The productivity of the symphony orchestra thus languishes. In contrast, during booming economic times, the concert hall is full and the productivity of the orchestra (the value of its output divided by the number of players) increases as spending on concert tickets increases.

What is true of the symphony orchestra is true of most service occupations. Teachers are, by definition, more productive the more students they have in their classes. Greater demand for higher education thus improves the productivity of college teachers. The productivity of the sales force in a store, the productivity of real estate agents, the productivity of newspapers reporters, and the productivity of management consultants (who try to help firms become more productive) all depend on the value of sales.

But there is a second reason individual incentives may not be as important for productivity growth. The ultimatum game poses the following problem. Two people are given a fixed sum of money to divide up. The first subject can propose any division of the money that they like; the second subject can only accept or reject this division. If the division is accepted, each person receives the amount of money proposed by the first subject; if the division is rejected, each person receives nothing. Kahneman *et al.* (1986) ran a number of experiments where individuals played this game for real stakes. He found that people do not behave as predicted by the rationality assumption of economists. Dividers tend to make substantial offers to the other subject, when they could have offered close to zero, reasoning that the second subject would not reject getting a very small amount of money. Furthermore, most people reject unfair or unequal offers, despite the fact that it is personally costly and economically irrational. These results have been replicated time and time again, including cases in which people rejected offers as large as one month's pay because they felt that the split was unfair (Henrich *et al.* 2001).

Neurological studies have found that offers are more likely to be rejected when there was strong activity in the anterior insula area of the brain, which has been found to be associated with negative emotional responses. It seems as though rejecting unfair

offers is not the result of rational, deliberative action in our brains; rather, it is the result of a negative emotional response (Cohen, 2005, p. 14). In other words, we have some internal sense of fairness. More than likely, this arose for evolutionary reasons and contributed to human survival (see Field 2002).

I would like to propose a modified version of the ultimatum game, one directly applicable to the question of productivity growth. In this game, the original proposer still gets to divide the pie and the second subject still gets to accept it or reject it. However, the result of rejecting the pie is *not* that both subjects get nothing. Rather, the result is that both subjects get less-- although distribution of the pie remains pretty much the same.

This revised ultimatum game approximates what goes on in real world economies. Large firms propose a division of the economic pie. Workers can ill-afford to reject this offer outright, since most workers need a job and an income to survive. But workers can *quasi-reject* a proposal they regard as unfair in other ways—by working less hard, by sabotaging production and firm efficiency, by causing a great deal of firm resources to be used in setting rules, monitoring workers, and dealing with actual and possible law suits. The net result is a loss of efficiency, or a smaller pie.

This analysis leads to very different policies than the neoclassical approach. It means that to improve productivity growth we need to reduce income inequality. This means that high taxes are *not* a problem, but are a solution; in fact, low taxes on the very wealthy may actually lower productivity growth rather than increase it.

This view even has some empirical support. If you look at when the US economy performed best, in terms of rising productivity growth, high and rising living standards,

and low rates of unemployment, the past 25 years or so have not been very good (except, of course, for the very wealthy). Since the 1970s productivity growth has stagnated, unemployment has been relatively high, and average household incomes have barely increased (despite a large rise in the number of household members who are part of the labor force). All the policies enacted since the early 1980s to reduce government regulation of business firms, cut the top marginal tax rates, and reduce redistributive government spending have resulted in rather poor economic performance for more than a quarter of a century. In contrast, the glory days for the US economy were the 1950s, the 1960s and the early 1970s. These were times of very high marginal tax rates-- exceeding 90 percent on the top income earners. They were times of significant and growing income redistribution, of greater support for education, and of substantial regulation of markets.

Further support for this view comes from more microeconomic studies. Economists typically focus on the benefits of inequality for individual performance. Their evidence for this comes from sports like golf and auto racing, where the greater the inequality of the prize money, the better the individual performances. While this is true of individual sports, it is not true of team sports. Mat Bloom (1999) has analyzed baseball salaries and found that the wider the pay differences, the worse the team performance and the worse the individual performances on the team. There is further empirical support for this in studies of manufacturing firms. Cowherd & Levine (1992) found that firms with wider pay differentials have lower product quality. So while in individual competitions inequality is likely to enhance performance, in real world situations, where productivity and performance depend on social factors, inequality

appears to actually harm performance. Sharply progressive taxes and large wage floors are, therefore, likely to contribute to productivity growth.

IV. Summary and Conclusion

This paper has begun the process of applying Post Keynesian principles, usually invoked in macroeconomics, to microeconomic policy questions. It has shown how a Post Keynesian approach yields a policy analysis and a set of policy solutions that are very different from neoclassical economics. There is still a great deal of work to be done in this area. It is time for Post Keynesians to begin this work.

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