Is Inflation Targeting Compatible with Post Keynesian Economics?

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Abstract

The purpose of this paper is to show that inflation targeting is compatible with Post Keynesian economics, but only if the policies used to achieve the inflation target explicitly acknowledge (a) the demand-determined nature of the real income generating process, and (b) the importance of conflicting claims over the distribution of income for determining the rate of inflation. The paper then questions whether or not policy makers should trouble to engage in inflation targeting. It is shown that there does exist a Post Keynesian case for inflation targeting, but that the appropriate inflation target that emerges from Post Keynesian economics suggests that far too much attention is currently being paid to inflation and that more of policy makers’ attention should be devoted to output (and, by extension, employment) targeting.

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1. Introduction

Broadly defined, inflation targeting involves the public announcement of inflation targets coupled with a credible and accountable commitment on the part of government policy authorities to the achievement of these targets. Advocates of inflation targeting typically prescribe the appropriate target rate of inflation as involving “price stability”, although they disagree as to the precise meaning of this term. For authors such as Feldstein (1997), price stability involves a long-run inflation rate of zero, whereas Mishkin (2001) argues against a target of zero inflation on the grounds that it invites financial instability and pronounced contractions in the real economy resulting from periods of deflation. Hence Mishkin (2002, p.361) cites approvingly Alan Greenspan’s definition of price stability as a “rate of inflation that is sufficiently low for households and businesses not to have to take it into account in making everyday decisions”, and suggests that, in practice, any rate of inflation between zero and 3 per cent would satisfy this definition.

The purpose of this paper is to investigate whether or not Post Keynesian economics is compatible with the idea of inflation targeting as defined above. The answer developed in what follows is that Post Keynesianism is compatible with inflation targeting, but only if there is explicit recognition in the design of the policies used to pursue an inflation target of both (a) the role of aggregate demand in determining real income and (b) the importance of conflicting

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1 It should be noted at this point that there are more stringent definitions of inflation targeting than that offered above. For example, one of the five main elements of inflation targeting identified by Mishkin is “an institutional commitment [on the part of the central bank] to price stability as the primary goal of monetary policy, to which other goals are subordinated” (Mishkin 2002, p.361, emphasis added). If a definition of this nature is adopted, then Post Keynesian economics is incompatible with inflation targeting \textit{by definition}: as will become clear in what follows, the Post Keynesian tradition offers no support for either the automatic elevation of price stability (however defined) to the status of “primary goal” of monetary policy, or the subordination of all other policy goals to an inflation target. For the purposes of this paper, however -- and precisely in order to avoid the rather facile posture of choosing a definition of inflation targeting designed to render the answer to the question in the title of the paper negative by definition -- we will proceed on the basis of the broader definition of inflation targeting stated earlier.
claims over the distribution of nominal income in the inflation process. It is also argued that the sort of inflation target consistent with the strictures of Post Keynesian economics suggests that the prescription of a zero to 3 per cent inflation target places too much emphasis on low inflation as a policy goal, and that more attention should be devoted to the development and pursuit of output (and, by extension, employment) targets.

The remainder of the paper is organized as follows. Section 2 briefly examines the case for inflation targeting in mainstream macroeconomics. Section 3 then examines whether or not inflation targeting is compatible with Post Keynesian economics, demonstrating that a reconciliation between Post Keynesianism and inflation targeting is possible as long as policy making is sensitive to the intrinsic natures of the income-generating and inflation processes as conceived by Post Keynesian macro theory. The question as to whether or not inflation targeting is worthwhile is taken up in section 4. Finally, section 5 offers some conclusions.

2. Inflation targeting: the mainstream view

The compatibility of inflation targeting with mainstream macroeconomics is easily illustrated in the context of the neo-Wicksellian or “new consensus” model (see, inter alia, Romer 2000; Woodford 2003). This model, which is understood by its proponents to be representative of the policy models used by many major central banks (Taylor 2000, p.91), retains four interrelated features of pre-Keynesian economics that are characteristic of modern mainstream macroeconomics more generally: real wage bargaining, the neutrality of money,

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2 The thesis of compatibility between Post Keynesian economics and inflation targeting advanced in this paper is therefore substantively different from the nominal identical thesis advanced by Palley (forthcoming), whose argument rests on a particular (and rather idiosyncratic) specification of the Phillips curve. As will become clear in what follows, no special claims are made about the shape of the Phillips curve in this paper, beyond its addressing the conventional and time-worn issue as to whether or not the Phillips curve should depict a long run relationship between inflation and real economic outcomes.
supply-determined equilibrium (the notion that aggregate demand is irrelevant for determining the equilibrium values of real variables) and demand-pull inflation (the notion that excess aggregate demand is the ultimate source of all inflation). These three features are summarized in the form assumed by the Phillips curve in the new consensus, which is consistent with the natural rate hypothesis.

The new consensus model can be summarized by the following system of equations:

\[ y = y_0 - \delta r \]  
\[ p = p_{-\infty} + \alpha (y - y_n) \]  
\[ \dot{r} = \beta (y - y_n) + \gamma (p - p^T) \]

where \( y \) and \( y_n \) denote real output and the “natural” level of real output, respectively, \( r \) is the real interest rate, and \( p \) and \( p^T \) are the actual and target rates of inflation, respectively. Equation [1] is an IS curve, equation [2] is a Phillips curve embodying the natural rate hypothesis, and equation [3] is a central bank reaction function resembling the archetypal “Taylor rule”.

In order to further analyse the properties of the new consensus model and demonstrate its compatibility with inflation targeting, it is helpful to reduce equations [1] – [3] to a system of two simultaneous differential equations. In order to accomplish this, first note that equation [1] yields:

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3 Of these four interrelated features, the second and third attain only in the long run in the new consensus. However, since the non-neutrality of money and the importance of aggregate demand conditions are strictly transitory phenomena, and since some branches of mainstream macroeconomics are consistent with monetary neutrality and the irrelevance of aggregate demand even in the short run, we abstract from this characteristic of the new consensus altogether in the discussion that follows.

4 See, for example, Rogers (Forthcoming) and Niggle (Forthcoming) for critical discussion of the intrinsically classical pedigree of the new consensus model.

5 Unlike the canonical Taylor rule, equation [3] makes no direct reference to the natural rate of interest. Nevertheless, the real interest rate in the model specified above will automatically gravitate towards the natural rate and the equilibrium rate of inflation that will emerge from the model is consistent with the target rate. In other words, equation [3] is sufficient to ensure that the familiar equilibrium and stability properties of the new consensus model attain. See Setterfield (Forthcoming) for further discussion.
\[ \dot{y} = -\delta \dot{r} \]

which, when combined with [3] gives us:

\[ \dot{y} = -\delta \beta (y - y_n) - \delta \gamma (p - p^T) \]

[4]

Meanwhile, by re-arranging [2] we arrive at:

\[ \dot{p} = \alpha (y - y_n) \]

[5]

Equilibrium is achieved in [4] and [5] when \( \dot{y} = \dot{p} = 0 \). Using the first of these equilibrium

conditions, we obtain from [4] the expression:

\[ y = \left( y_n + \frac{\gamma}{\beta} p^T \right) - \frac{\gamma}{\beta} p \]

[6]

whilst using the second, we can re-write [5] as:

\[ y = y_n \]

[7]

The equilibrium configuration of the dynamical system in equations [4] and [5] can now be


asterisk to denote the equilibrium value of a variable, we obtain \( p^* = p^T \). Meanwhile, it follows

directly from [7] that \( y^* = y_n \). It is straightforward to demonstrate that the equilibrium

configuration so derived is stable. Note, then, that the system of equations in [4] and [5] can be

summarized in matrix form as:

\[
\begin{bmatrix}
\dot{y} \\
\dot{p}
\end{bmatrix} =
\begin{bmatrix}
-\delta \beta & -\delta \gamma \\
\alpha & 0
\end{bmatrix}
\begin{bmatrix}
y \\
p
\end{bmatrix} +
\begin{bmatrix}
\delta (\beta y_n + \gamma p^T) \\
-\alpha y_n
\end{bmatrix}
\]

[8]

\text{6 Note that a third equilibrium value can be obtained by referring back to the structural model in [1]-[3]. Hence given that \( \dot{y} = \dot{p} = 0 \), it follows that \( \dot{r} = 0 \) in [3]. Since, \( y^* = y_n \), we can thus derive the result \( r^* = (y_0 - y_n) / \delta \) from equation [1]. The equilibrium real interest rate thus conforms to the Wicksellian “natural” rate, as intimated earlier.}
Inspection of the Jacobian matrix in [8] reveals that $|J| = \delta \gamma > 0$ and $\text{Tr}(J) = -\delta \beta < 0$: hence the equilibrium configuration derived above is stable. The substance of these results is that in the new consensus model, not only do the policy authorities (specifically, the central bank) set an explicit inflation target, but by acting in accordance with equation [3], they ensure that this inflation target is part of an aggregate equilibrium configuration towards which the economy will return following any disturbance. Moreover, since the inflation target does not enter into the equilibrium solution of $y$, it follows that the policy authorities can set any inflation target they desire without this having any effect on the real equilibrium of the economy. This is illustrated in Figure 1 below, which is based on the isoclines in equations [6] and [7]. What Figure 1 shows is that as the policy authorities vary their inflation target (in this case, lowering it from $p_1^T$ to $p_2^T$), the equilibrium level of real output $y^* = y_n$ is unaffected; only the equilibrium rate of inflation changes, falling in line with the reduction in the inflation target itself. In this sense, the new consensus model describes an economy that is fully compatible with inflation targeting: not only does the structure of the model give rise to conditions under which an established inflation target can be achieved, it also suggests that inflation targeting can be given “free rein” as an autonomous policy objective, since the precise inflation target that is set and pursued by the policy authorities has no bearing on the real equilibrium configuration of the economy.

2. Is inflation targeting compatible with Post Keynesian economics?

   i) A baseline Post Keynesian model with an inflation-targeting central bank

   If the hallmark of mainstream macroeconomics is its embodiment of the essentially classical precepts of real wage bargaining, the neutrality of money, supply-determined
equilibrium and demand-pull inflation as encapsulated in a Phillips curve consistent with the natural rate hypothesis, then it is a relatively simple matter to amend a mainstream macro model in order to make it more consistent with Post Keynesian economics. Specifically, one need only make changes to the form of the Phillips curve in order to develop a model that is consistent with four interrelated and essential tenets of Post Keynesian economics: nominal wage bargaining, the non-neutrality of money, demand-determined equilibrium (the notion that aggregate demand plays a central role in determining the equilibrium values of real variables) and cost-push inflation (the notion that changes in the rate of growth of costs – and in particular, wage inflation associated with conflict over the functional distribution of income – are an important source of inflation).\(^7\) This is achieved in the following stylized representation of a baseline Post Keynesian economy which, in the interests of parsimony, is structurally similar to the new consensus model developed in the previous section:

\[
y = y_0 - \delta r \\
p = \varphi p_{t-1} + \alpha y + \theta Z \\
\dot{r} = \gamma (p - p^T)
\]

In this model, \(Z\) captures the willingness and ability of workers to bid up the rate of growth of nominal wages independently of the level of economic activity and all other variables are as previously defined. Equation [1] will immediately be recognized as the IS curve from the previous section. Equation [9] is the Post Keynesian Phillips curve, in which \(\varphi < 1\) and the absence of any reference to a supply-determined equilibrium or “natural” level of output are consistent with the four essential tenets of Post Keynesian macroeconomics mentioned above.

\(^7\) See, for example, Setterfield (2004, pp.40—41). See also Lavoie (2004, pp.22—7) for an alternative approach that is nevertheless in keeping with the spirit of the claim made above.
The inclusion of the variable $Z$ is associated with the role of conflicting claims over nominal income as a source of inflationary pressure. Its importance will become apparent in due course. Finally, equation [10] differs from the Taylor rule in [3] only by virtue of the absence of any reference to a “natural” level of output, this being consistent with the non-existence of the latter in Post Keynesian economics.

In short, the baseline Post Keynesian model stated above differs from the new consensus model in the previous section in just one essential respect: the form of the Phillips curve. There remains an inverse relationship between real output and the interest rate, and policy makers (specifically, the central bank) continue to set and pursue an inflation target. The question that we now wish to address is whether or not the baseline Post Keynesian model is fully compatible with this inflation targeting behaviour by the central bank.

As before, we begin by reducing the structural model in equations [1], [9] and [10] to a system of two simultaneous differential equations. To this end, note that it follows from [1] and [10] that:

$$\dot{y} = -\delta \gamma (p - p^r)$$  \hspace{1cm} [11]

Now note that, by definition:

$$p_{-1} = p - \dot{p} \Delta t$$

Substituting into [10] yields:

$$p = \varphi (p - \dot{p} \Delta t) + \alpha \dot{y} + \theta Z$$

from which it follows that:

$$\dot{p} = \varphi \dot{p} - \varphi \dot{p} \Delta t + \alpha \dot{y} + \theta \dot{Z}$$

and finally, assuming $\dot{p} = \dot{Z} = 0$ and utilizing [11]:

$$\dot{p} = \varphi \dot{p} - \varphi \dot{p} \Delta t + \alpha \dot{y} + \theta \dot{Z}$$
\[
\dot{p} = \frac{-\delta \dot{y}}{1 - \phi} (p - p^\top)
\]

[12]

Once again, equilibrium is achieved when \( \dot{y} = \dot{p} = 0 \). Using these equilibrium conditions in conjunction with equations [11] and [12] respectively, we obtain one and the same result:

\[ p = p^\top \]

[13]

The substance of this result is that there is no unique equilibrium value of \( y \) intrinsic to the baseline Post Keynesian model; rather, any level of \( y \) can be sustained as an equilibrium, depending on aggregate demand conditions. Note, however, that since the central bank orients its monetary policy solely in the pursuit of inflation targeting in [11], as a consequence of which we obtain \( p^* = p^\top \) from the isoclines in [13],\(^8\) and since [10] yields a strict direct relationship between \( p^* \) and \( y^* \) of the form:

\[ y^* = \frac{(1 - \phi)p^* - \theta Z}{\alpha} \]

it follows that:

\[ y^* = \frac{(1 - \phi)p^\top - \theta Z}{\alpha} \]

In other words, the choice of inflation target determines the equilibrium rate of inflation and imposes a unique equilibrium value on the level of real output.\(^9\) Moreover, the equilibrium configuration described above is stable. This can be established by first writing [11] and [12] in matrix form as:

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\(^8\) The reference here is to isoclines in the plural since [13] is consistent with both \( \dot{y} = 0 \) and \( \dot{p} = 0 \).

\(^9\) Note that much the same can be said of the equilibrium real interest rate. With \( p = p^\top \) and hence \( \dot{r} = 0 \) in [11], we can use [1] together with the equilibrium solution for \( y \) above to solve for the equilibrium real interest rate in the Post Keynesian model, which is given by \( r^* = (\alpha y^* - [1 - \phi]p^\top + \theta Z) / \alpha \delta \). In other words, there is no natural rate of interest; rather, the equilibrium rate of interest varies inversely with the target rate of inflation.
\[
\begin{bmatrix}
\dot{y} \\
\dot{p}
\end{bmatrix} = 
\begin{bmatrix}
0 & -\delta y \\
0 & \frac{\delta y}{1-\phi}
\end{bmatrix}
\begin{bmatrix}
y \\
p
\end{bmatrix} + 
\begin{bmatrix}
\delta y p^r \\
\delta y \frac{p^r}{1-\phi}
\end{bmatrix}
\]  

[14]

Inspection of the Jacobian matrix in [14] reveals that \( |J| = 0 \) and \( \text{Tr}(J) = -\delta y/(1 - \phi) < 0 \): the equilibrium configuration of the baseline Post Keynesian model is stable. What these results mean is that in the baseline Post Keynesian model (as in the new consensus model), not only do the policy authorities (specifically, the central bank) set an explicit inflation target, but by acting in accordance with equation [11], they ensure that this inflation target is part of an aggregate equilibrium configuration towards which the economy will return following any disturbance. However, since the inflation target does now enter into the equilibrium solution of \( y \), any inflation target set by the policy authorities will inevitably affect on the real equilibrium of the economy. This is illustrated in Figure 2 below, which is based on the isoclines in equation [13]. Figure 2 shows that as the policy authorities vary their inflation target (once again, lowering it from \( p^T_1 \) to \( p^T_2 \)), both the equilibrium rate of inflation and the implied equilibrium level of real output change. Specifically, both fall as a result of the reduction in the inflation target. This means that our baseline Post Keynesian economy, which incorporates an inflation-targeting central bank, is only partially compatible with inflation targeting: it is possible for the policy authorities to both establish and achieve any inflation target of their choosing, but only at a cost, since every reduction in the inflation target necessarily implies a reduction in the equilibrium level of real activity. Hence inflation targeting cannot be given “free rein” as an autonomous policy objective, but must instead take into account the adverse effects of the pursuit of low inflation on real output (and, by extension, the level of employment).

[INSERT FIGURE 2 HERE]
ii) Reconciling inflation targeting with Post Keynesian economics

There are two essential and closely related problems with the practice of inflation targeting in the baseline Post Keynesian model developed above. The first is associated with an inescapable feature of the income-generating process: there exists a trade-off between inflation and real economic activity because both are sensitive to aggregate demand conditions, so that depressing demand in order to reduce inflation adversely affects real economic activity. But the second is a problem associated with policy making that it is possible, in principle, to transcend: the baseline Post Keynesian model incorporates policy authorities that are both (a) committed only to inflation targeting and (b) inclined to treat inflation as if it were an exclusively demand-pull phenomenon that must be remedied by depressing aggregate demand conditions. In what follows, we will show that by suitably changing the behaviour of the policy authorities, it is possible to make inflation targeting fully compatible with Post Keynesian economics.

To begin, consider an extended Post Keynesian model of the form:

\[ y = y_0 - \delta r \] \hspace{5cm} [1]

\[ p = \phi p_{-1} + \alpha y + \theta Z \] \hspace{5cm} [9]

\[ \dot{r} = \lambda (y - y^T) \] \hspace{5cm} [15]

\[ \dot{Z} = -\mu (p - p^T) \] \hspace{5cm} [16]

where \( y^T \) denotes the policy authorities’ target level of real output and all other variables are as previously defined. Equations [1] and [9] are retained from the baseline Post Keynesian model. Equations [15] and [16], however, are policy reaction functions in which the policy authorities manipulate aggregate demand conditions in the pursuit of an output (rather than inflation) target, and engage in a policy of inflation targeting by explicitly acknowledging the “conflicting claims”
basis of the inflation process and thus seeking to manipulate the ability and/or willingness of workers to seek increased nominal wage growth (which is assumed to be motivated, at least in part, by a desire to influence the functional distribution of income).\(^\text{10}\)

In order to demonstrate the impact of this change in the behaviour of the policy authorities, we begin once again by reducing the structural model above to a system of two simultaneous differential equations. From [1] and [15], we now obtain:

\[
\dot{y} = -\delta \lambda (y - y^T)
\]  \(\text{[17]}\)

Referring back to the derivation of equation [12] in the previous sub-section, but assuming that \(Z\) now evolves in accordance with [16] and bearing in mind the result obtained in [17] above, we can write:

\[
\dot{\theta} = -\frac{1}{1-\varphi} \left( \alpha \delta \lambda [y - y^T] + \theta \mu [p - p^T] \right)
\]  \(\text{[18]}\)

Imposing the equilibrium conditions \(\dot{y} = \dot{\theta} = 0\), we now obtain from equations [17] and [18] the results:

\[
y = y^T
\]  \(\text{[19]}\)

and:

\[
y = \left( y^T + \frac{\theta \mu}{\alpha \delta \lambda} p^T \right) - \frac{\theta \mu}{\alpha \delta \lambda} p
\]  \(\text{[20]}\)

We can thus infer directly from [19] that \(y^* = y^T\), whilst combination of [19] and [20] yields \(p^* = p^T\). The equilibrium configuration of the economy is thus consistent with both the output and

\(^{10}\) It may appear that the model described above “blames workers” for inflation. In fact, this is not the case. Nominal wage growth designed to influence the distribution of income will only prove inflationary if firms are willing and able to resist income redistribution by passing on nominal wage increases in the form of higher prices. Inflation thus results from the irreconcilable claims of workers and firms on nominal income, not from the behaviour of workers alone. As such, policies that act on \(Z\) in an effort to reduce inflation may, in fact, be directed in the first instance at firm behaviour rather than that of workers, in an effort to better reconcile the competing claims of workers and firms on nominal income and thus reduce the workers’ desire for nominal wage increases.
inflation targets set by the policy authorities.\textsuperscript{11} Moreover, this equilibrium configuration is stable. To see this, we first summarize [17] and [18] in matrix form as:

\[
\begin{bmatrix}
\dot{y} \\
\dot{p}
\end{bmatrix} = \begin{bmatrix} -\delta \lambda & 0 \\
\alpha \delta \lambda \theta \mu & \delta \lambda \theta \mu \end{bmatrix} \begin{bmatrix} y \\
p
\end{bmatrix} + \begin{bmatrix} \delta \lambda y^T \\
\frac{1}{1-\phi} (\alpha \delta \lambda y^T + \theta \mu p^T)
\end{bmatrix}
\] \tag{[21]}

Examination of the Jacobian in [21] reveals that \( |J| = \delta \lambda \theta \mu / (1 - \phi) > 0 \) and \( \text{Tr}(J) = -\left( \delta \lambda + \theta \mu / [1 - \phi] \right) < 0 \): in other words, the equilibrium configuration of the extended Post Keynesian model is stable.

These results demonstrate that in the extended Post Keynesian model, as in the baseline Post Keynesian model, it is possible for the policy authorities to both set an explicit inflation target and to execute policy so as to ensure this inflation target is part of an aggregate equilibrium configuration to which the economy will return following any disturbance. This time, however, the equilibrium solution of \( y \) is once again independent of the authorities’ inflation target. This is clearly illustrated in Figure 3 below, which is based on the isoclines in equations [19] and [20]. Like Figure 1 in the previous section, Figure 3 shows that as the policy authorities reduce their inflation target from \( p_1^T \) to \( p_2^T \), the equilibrium level of real output \( y^* = y^T \) is unaffected; only the equilibrium rate of inflation changes, falling in line with the reduction in the inflation target itself. Like the new consensus model depicted in Figure 1, then, the extended Post Keynesian model describes an economy that is fully compatible with inflation targeting: not only does the structure of this model give rise to conditions under which an established inflation target can be achieved, it also suggests that inflation targeting can be given “free rein” as an

\textsuperscript{11} In this respect, the extended Post Keynesian model outlined above avoids the problem identified by Setterfield (2004), according to whom Post Keynesian models in which the policy authorities attempt to set both output and inflation targets may involve the authorities missing both of their targets, \textit{unless} they explicitly take into account the long run, direct relationship between output and inflation identified in the previous sub-section in the initial formulation of their targets. This is for the simple reason that the model developed above contains as many policy instruments as targets, whereas the model formulated in Setterfield (2004) does not.
autonomous policy objective, since the precise inflation target that is set and pursued by the policy authorities has no bearing on the real equilibrium configuration of the economy.\textsuperscript{12} The main difference in macroeconomic outcomes as between the extended Post Keynesian and new consensus models is, of course, that in the former, the real equilibrium configuration of the economy involves a level of output (and, by extension, employment) that is an explicit creation of the policy authorities (the target level of output $y^T$) and that does not correspond to any unique, supply-determined equilibrium determined independently of policy.\textsuperscript{13}

As intimated earlier, the essential difference in outcomes between the baseline and extended Post Keynesian models is explained by the fact that the former embodies policy authorities that are committed only to inflation targeting and that are inclined to treat inflation as if it were an exclusively demand-pull phenomenon, whereas the latter involves policy making that explicitly recognizes both the importance of aggregate demand conditions for real economic activity and the “conflicting claims” basis of the inflation process. Hence the policy reaction functions in [15] and [16] seek to manipulate aggregate demand in the pursuit of an output target whilst simultaneously engaging in a policy of inflation targeting by manipulating the ability and/or willingness of workers to seek increases in nominal wage growth motivated by distributional concerns. Note that in the simple model developed above, the question as to exactly what the manipulation of $Z$ involves – i.e., exactly how the distributional concerns of workers are addressed in order to bring inflation under control – is not explicitly addressed. It is possible that $Z$ might be raised by reducing the willingness of workers to press for higher

\textsuperscript{12} See the discussion immediately below for an important potential qualification to this conclusion.
\textsuperscript{13} See, for example, Smithin (2004) for the argument that constructs such as $y_n$ in mainstream macroeconomics are no more than implicit creations of the policy authorities, dressed in the language of “naturalism” to masquerade as objective, given conditions over which the authorities themselves have no control when it comes to establishing the course of appropriate macroeconomic policy interventions.
nominal wage growth, by developing a mutually consensual commitment on the part of both workers and firms to a particular distribution of income in the context of a “social bargain” (Cornwall 1990; Cornwall and Cornwall 2001). On the other hand, \( Z \) might be raised by reducing the ability of workers to press for higher nominal wage growth (whatever their discontent with the current distribution of income) by creating an “incomes policy based on fear”, in which structural features of the labour market (including changes in labour law, employment practices such as periodic downsizing and credible threats to relocate production) are used to coerce workers into de facto acceptance of firms’ preferred functional distribution of income (Setterfield 2005). These considerations call attention to the fact that in the extended Post Keynesian model developed above, important policy choices remain. In particular, the desirability of any particular set of policies used to pursue an inflation target in a manner consistent with this model remains open to question on the grounds of their (in)equity.\(^{14}\)

There remains one final important point to make regarding the purported full compatibility of the extended Post Keynesian model with inflation targeting. Specifically, if changes in \( Z \) affect the distribution of income itself (rather than just the degree of consent or acquiescence to a particular distribution of income), they may, in turn, affect aggregate demand and hence real output. This reveals an important potential caveat to the conclusion that the extended Post Keynesian model is fully compatible with inflation targeting: not all policies designed to raise \( Z \) are necessarily compatible with the result that inflation targeting can be pursued as an autonomous policy objective. The model developed above is too simple to capture either (a) the relationship between \( Z \) and the functional distribution of income or (b) the impact

\(^{14}\) See Rochon and Rossi (forthcoming) for evidence of the adverse (from the point of view of workers) distributional outcomes associated with current inflation targeting practices. This evidence, coupled with the considerations raised above, suggests that it is imperative for any policy of inflation targeting to be accompanied by proper assessment of both its distributional impact and the distributive (in)justice thereof.
of income distribution on aggregate demand and hence real output. However, it is important to note that these considerations may compromise or at least qualify the results obtained earlier. It remains a task of further research to investigate this possibility more fully.

4. Is inflation targeting worthwhile?

Having demonstrated the potential compatibility of inflation targeting with Post Keynesian economics, an important final question remains: is inflation targeting worthwhile? The claim of both the new consensus and extended Post Keynesian models developed above that inflation targeting can be given a “free rein” as an autonomous policy objective is based on the independence of the real equilibrium configuration of the economy from the policy authorities’ inflation target in either of these models: inflation targeting is apparently a “free lunch”, in the sense that inflation can be lowered without this having any (permanent) adverse effect on output and employment.

But if the real economy is independent of the rate of inflation, why bother with inflation targeting in the first place? Setting aside the equity issues associated with the adverse impact of inflation on those with fixed nominal incomes, mainstream macroeconomists claim to have identified a number of reasons for devoting policy to the pursuit of low inflation. First, it is argued that inflation is not, in fact, neutral with respect to the real economy, but is, instead, inimical to employment and/or growth (Friedman 1970; Jarrett and Selody 1982; Davis 1991). However, some of the empirical results associated with this claim have proved difficult to replicate empirically, whilst others depend crucially on observations drawn from high inflation
environments, where the observed rate of inflation exceeds 15 or even 20 per cent (Setterfield and MacLean 1991; MacLean and Setterfield 1993).15

A second argument calls attention to problems that arise from the non-indexation of tax brackets, which can distort the tax burden when nominal incomes rise purely as a result of inflation. But an important question here is whether it is really the proper role of macroeconomic policy to solve a problem that is ultimately due to the administration of the tax code? Finally, there are the fabled “shoe leather” costs of inflation – welfare losses arising from the inconvenience of dealing with ever larger nominal magnitudes in a money-using economy. Shiller (1997) reports that inflation is unambiguously unpopular with the general public, and empirical results suggest that the welfare losses resulting from the impact of inflation on the demand for money that are associated with a 10% rate of inflation are somewhere in the order of 0.3 – 0.45 per cent of national income (Fischer 1981; Lucas 1981). Inflation may well inconvenience the private sector, then -- but does the magnitude of the resulting welfare losses reported above really justify the Greenspan/Mishkin view, that an inflation target in the zero to 3 per cent range is desirable in order to ensure that “households and businesses do not to have to take it [inflation] into account in making everyday decisions”?

So much for mainstream theory. What, if any, justification for the pursuit of low inflation as a policy objective can be associated with Post Keynesian economics, in which the economy is viewed as a monetary-production system wherein financial and real activity are always inextricably linked? First, note that Post Keynesians typically argue that mild inflation may be

15 It should also be noted that connecting inflation to employment and/or growth poses a theoretical challenge for mainstream macroeconomics, since logically, it is impossible to sustain the claim that money is neutral in the long run whilst simultaneously asserting that inflation – an intrinsically nominal phenomenon – has real effects. If there is, in fact, no Classical dichotomy, it behoves the mainstream to explore the full implications of this and incorporate it consistently into macroeconomic models.
beneficial for the real economy. Hence mild inflation ensures that the economy will avoid the potentially serious (for both the financial sector and the real economy) travails of deflation. It also “oils the wheels” of commerce, facilitating labour market adjustment and making it easier for firms (who must always purchase inputs at today’s prices, before they can produce and the ultimately sell output at tomorrow’s prices) to commit to productive activity (Palley 1996, p.83). However, it would be consistent with Post Keynesian monetary theory to suggest that if a sufficiently high rate of inflation can disrupt the fundamental conventions of the use of money as a unit of account, store of value, and means of finance, the result would be severe dislocation of the real economy – as, for example, in hyper-inflating economies, which typically suffer both hyper-inflation and low growth/high unemployment. But as with mainstream arguments concerning the costliness of inflation, what this essentially points to is the notion of a non-linear relationship between inflation and real outcomes, according to which it is rates of inflation above some relatively high threshold level that are detrimental and can be considered an appropriate focus of remedial macroeconomic policy intervention.

It is beyond the scope of this paper to provide a comprehensive survey of the costs of inflation. But what the brief discussion above does suggest is that both mainstream and Post Keynesian economics can only really justify concern with high inflation, by which we certainly mean inflation rates well in excess of the 3 per cent recommended by Mishkin (2002) as the upper limit of the acceptable range of inflation targets. What this suggests is that too much emphasis is currently placed on inflation targeting as a policy objective. This conclusion seems particularly appropriate in the context of the extended Post Keynesian model developed in the

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16 This might explain why the 24 “low inflation” countries in Davis (1991), which experienced a mean rate of inflation of 6.4% and a range of inflation rates within two standard deviations of this mean of 1.4% - 11.4%, experienced a positive (albeit very small) correlation between inflation and real output growth.
previous section, in which target values that are explicit creations of the policy authorities (and that have no real or imagined basis in any “natural” values intrinsic to the economy) are instrumental in the determination of both the equilibrium rate of inflation and the equilibrium level of real output. Bearing this in mind, and in view of the conclusions reached on the basis of the brief review of the costs of inflation above, it seems that one of the most important lessons to be drawn from the extended Post Keynesian model is that, regardless of the fact that inflation targeting can be rendered fully compatible with Post Keynesian economics, there is currently too much emphasis on achieving low inflation and very much too little emphasis on the importance of and role of macroeconomic policy in determining the levels of real output and employment.

5. Conclusion

The purpose of this paper has been to explore the potential compatibility of inflation targeting and Post Keynesian economics. It has been shown that inflation targeting is fully compatible with mainstream macroeconomics (as exemplified by the new consensus), in the sense that it is possible in a mainstream model for the policy authorities to both set and achieve an inflation target, and to pursue inflation targeting as an autonomous policy objective (by virtue of the independence of the real economy from the authorities’ inflation target). It was then shown that a baseline Post Keynesian model can be developed utilizing the basic structure of the mainstream model, simply by altering the form of the Phillips curve. The resulting model is, however, only partially compatible with inflation targeting: an inflation target can be set and achieved, but inflation targeting cannot be pursued autonomously by virtue of the influence of the inflation target on the equilibrium level of real economic activity. Finally, an extended Post Keynesian model was developed in which the policy authorities explicitly acknowledge both the
influence of aggregate demand on real economic activity and the distributional conflict at the core of the inflation process. It was shown that, like the mainstream model, this extended Post Keynesian model is fully compatible with inflation targeting. However, consideration of the costs of inflation calls attention to the important question as to whether or not – even using the appropriate policy mix as prescribed by the extended Post Keynesian model – inflation targeting is worthwhile. It would appear that inflation can be a cause for concern, but that from either a mainstream or Post Keynesian view, it is high rates of inflation (in excess of 10% or more) that policy should seek to address and avoid. As such, it would appear that policy makers are currently devoting too much attention to low inflation as a policy objective – especially if we can interpret the Mishkin/Greenspan range of zero to 3 per cent as the conventionally agreed upon acceptable range of inflation rates that guides policy makers’ behaviour. On this basis, an important conclusion to be drawn from this paper is that whilst Post Keynesian economics is potentially compatible with inflation targeting, it seems that too much attention is currently being paid to low inflation as a policy objective, and that real economic performance – of which macroeconomic policy is an intrinsic determinant – should be given higher priority.
References


