

# ECOLOGICAL MONETARY ECONOMICS: A POST-KEYNESIAN CRITIQUE

## LONG ABSTRACT

Ecological economics is moving towards the construction of a more general theoretical framework, part of which is a new ecological macroeconomics (Kallis et al., 2012; Victor and Jackson, 2013; Victor and Rosenbluth, 2007). Within it, an ecological monetary economics has started to emerge. Ecological economists tackling monetary issues advocate monetary policies that seem, from a post-Keynesian point of view, either questionable or unnecessary. Ecological monetary economics currently appears to be mostly articulated around two core assumptions: First, to be achieved, a stationary state (and *a fortiori* a degrowth economy) would require interest rates set at zero. Second, such an economy would require a monetary system in which the monetary authorities have full control over the quantity of money in circulation (Daly, 2008; Farley et al., 2013; Lietaer et al., 2012; Loehr, 2012).

This paper adopts a critical stance towards the two main components of the currently emerging ecological monetary economics from the standpoint of another strand of heterodox economics – the post-Keynesian approach. It successively deals with the view on interest rates and then tackles the issue of a 100% reserves monetary system.

### 1. The need for a zero interest rate in a stationary-state economy

As mentioned above, several ecological economists write that a stationary economy (one with zero growth of real output) requires a zero interest rate. The main reasoning behind is that paying back an interest-bearing debt necessitates a growing economy otherwise the financial system will face a massive default on debt (Farley et al., 2013): Positive interest creates the need for economic agents to earn more money in order to gain the additional money corresponding to interest payments. Earning more money would then necessarily mean accumulating more capital, thus making the economy growing.

From a post-Keynesian perspective, this doesn't make very much sense. Post-Keynesians view money creation as endogenous. Within this analytical perspective, money is created through bank credit when economic agents have a credit-worthy demand for it (Lavoie, 2011). If the economy reaches a steady-state where output does not grow anymore, firms and households will not demand an additional stock of money to fulfil their needs: the existing stock of money corresponding to the existing level of output will be sufficient.

Therefore, even though indebted firms and households would pay positive interest rates over their debts while paying them back, non-indebted individuals could borrow new money and thus maintain the stock of money constant without causing a massive risk of default over existing debts. A stationary economy could then bear positive interest rates. The only condition is that while output remains constant, the stock of debt remains so as well. Therefore, as long as the growth of debt is either nil or negative, the economy can endure a stationary state and pay positive interest rates over the remaining stock of debt. This is actually well shown by stock-flow consistent (SFC) models (Godley and Lavoie, 2012), one of the main post-Keynesian modelling approach. These models integrate the real and monetary sides of the economy. Many of them converge towards a stationary state. While the economy does not grow anymore, positive interest rates continue to be paid without breaking the accounting consistency of the models.

From a post-Keynesian point of view, it seems therefore that there is a confusion made by ecological economists dealing with money between stock and flows, which lead them to assume unnecessary conditions for an economy to reach a stationary state: what needs to remain constant is the stock, namely the debt, but the flow, namely the interest payment, does not need to be set to zero. The paper will further elaborate on the mechanisms explaining why and how this is possible, in particular by revisiting the so-called Cambridge equation.

## 2. The need for a 100% reserves system

Ecological economists dealing with monetary issues often advocate a new monetary system based on a 100% reserves requirement for commercial banks to create money (Daly, 2013; Farley et al., 2013). From a post-Keynesian point of view, the problem with this new monetary system is twofold: (1) It relies on an erroneous analysis of the functioning of the current monetary system ; (2) It is theoretically backed by the Classical view of money. The latter is not accurate to understand monetary dynamics within a monetary economy of production: the stationary economy as conceptualized by ecological economists is a monetary economy of production.

(1) According to the so-called fractional reserve banking view, commercial banks are entitled to create credit and money as some multiple of their reserves at the central bank. However, this corresponds to a static analysis of money creation: it is true that at moment  $t$  a commercial bank has less reserves than it has credits or money deposits. However, the economy is dynamic and so should be its analysis. Dynamics of the monetary system show that commercial banks can always refinance themselves either on the interbank market or at the central bank. Therefore, there is no fractional reserve system *per se*, since any bank can have the liquidities it needs at any point in time. Thus, the fractional reserve system is an intellectual construct that does not depict accurately the way monetary systems function, and a serious analysis cannot be based upon it. Nor can it be based upon the view that banks transform short-term deposits into long-term loans since they do not have any *ex ante* savings constraint to create money.

(2) The view that a virtuous monetary system should rely upon a 100% reserves system is backed by the Classical theory of money: money is neutral and has no effect on the real side of the economy and on the structure of relative prices. Therefore its supply must not be driven by endogenous demand but should rather be exogenously controlled to prevent any risk of inflation. Within such a system, the central bank controls the quantity of money available in the economy. However, any kind of market economy is a monetary economy of production (Aglietta and Orléan, 2002, quoted in Harribey, 2012): in a monetary economy of production, money is created previously to the production process and anticipates the socially validated production, either market or non-market. Ultimately, the central bank closes the macroeconomic circuit by refinancing the banks that need to be refinanced and by lending to the State. In implementing a constraint over the *ex ante* creation of money, a 100% reserves system would then break the link between money as an economic private good and money as the social institution validating both market and non market productions (Harribey, 2012). This could be highly detrimental to the emergence of a sustainable economy since sustainable sectors that need to grow and would then require net investment could not fulfill their financing needs. Such a system would therefore impose an artificial deflationary and recessionary constraint over the economy, precluding any sustainable path towards a stationary economy. From a post-Keynesian perspective, what should rather be done in terms of monetary policy is applying different interest rates to encourage sustainable investment and discourage non sustainable investments (Fontana and Sawyer, 2013). The paper will further elaborate on the critique of a 100% reserves system applied to a stationary economy.

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## Short abstract

### CONTRIBUTION TO THE SPECIAL SESSION *MACROECONOMICS OF DEGROWTH*

Ecological economists tackling monetary issues advocate monetary policies that seem, from a post-Keynesian point of view, either questionable or unnecessary. Ecological monetary economics currently appears to be mostly articulated around two core assumptions: First, to be achieved, a stationary state (and *a fortiori* a degrowth economy) would require interest rates set at zero. Second, such an economy would require a monetary system in which the monetary authorities have full control over the quantity of money in circulation. This paper adopts a critical stance towards the emerging ecological monetary economics from the standpoint of the post-Keynesian approach. It deals with the view on interest rates and then tackles the issue of a 100% reserves monetary system. We argue that interest rates set to zero is an unnecessary condition to reach a steady-state economy and that a 100% reserves monetary system would preclude any sustainable path towards a non growing economy.

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