Essentials of Constructive Heterodoxy: Employment

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12 March 2015

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Abstract

Orthodox economics is founded on behavioral assumptions. This has been the wrong starting point because no way leads from there to an understanding of how the economic system works. Critical Heterodoxy is one step ahead insofar as it does not accept the green cheese assumptionism of optimization and supply-demand-equilibrium, yet this is not sufficient to establish a superior paradigm. What we have at the moment is a plurality of debunked theories. This is not a tenable situation. Consequently, Constructive Heterodoxy is focused on the formally consistent reconstruction of central economic phenomena like market, money, profit, and – in this paper – employment.

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1   Transcending the behavioral cul-de-sac

> Principles taken upon trust, consequences lamely deduced from them,
> want of coherence in the parts, and of evidence in the whole, these
> are every where to be met with in the systems of the most eminent
> philosophers, and seem to have drawn disgrace upon philosophy itself.
> (Hume, 2012, Introduction)

The corpus of economic thought, too, has for roughly the same reasons drawn
disgrace upon itself. The representative economist cannot explain how the economy
works and is disoriented with regard as to what can be and has been achieved by
standard economics. The deeper reason is that economists share since Adam Smith
Hume's philosophy of the primacy of the science of man.

> And as the science of man is the only solid foundation for the other
> sciences, so the only solid foundation we can give to this science itself
> must be laid on experience and observation. (Hume, 2012, Introduc-
> tion)

To build economics upon psychological, sociological, or behavioral assump-
tions/observations cannot yield anything other than a gossip model of the world.
Economists have to emancipate themselves from Hume's defunct methodology.

> ... if we wish to place economic science upon a solid basis, we must
> make it completely independent of psychological assumptions and
> philosophical hypotheses. (Slutzky, quoted in Mirowski, 1995, p. 362)

Orthodox economics is founded on behavioral assumptions. For more than one
reason this has definitely been the wrong starting point. What is decisive: no specific
behavioral assumption can serve as a starting point for economic analysis because
no way leads from the understanding of human behavior to the understanding of
how the economic system works.

Critical Heterodoxy, on the other hand, is one step ahead of Orthodoxy insofar as it
does not accept the green cheese assumptionism of utility maximization and supply-
demand-equilibrium, yet this is not sufficient to establish a superior paradigm. What
economics consists of at the moment is a colorful plurality of debunked theories.
This is not a tenable situation.

As a consequence, Constructive Heterodoxy is focused on the formally consistent
reconstruction of the theoretical superstructure from a set of objective premises.
What has to be clarified with the highest priority are central economic phenomena
like market, profit, aggregate demand, money, or employment. It is the latter that
concerns us here.

Section 2 gives the formal description of the most elementary economic configuration, that is, the pure consumption economy. From these minimalistic premises follows in Section 3 the interdependence of product and labor market and the induced inertia of the labor market. Unemployment is the natural state of the consumption economy with full price and wage flexibility. In Section 4 the complete conditions that determine employment in the investment economy are explicated. Keynes's approach is shown to be a special case. Section 5 concludes.

2 The art of abstraction

> There is no doubt a strong tendency to revolt against abstract reasoning. Human nature has a strong 'factish' element in it. The reasonings of *Principia* are now accepted. But in the beginning they were 'mere crotchets of Mr. Newton's;' ... they have irresistibly conquered; but at first even those most conversant with the matter did not believe them. (Bagehot, 1885, PE. 23)

Because it is impossible to directly observe the actual economy in its totality, the first task is to create a simplified mental representation. As a matter of fact, what is needed for good methodological reasons is the simplest possible description of the monetary economy. This description cannot be other than highly abstract and all depends on whether the abstraction succeeds. Abstraction, almost needless to emphasize, must eventually arrive with the highest precision at concrete facts, that is, at the touch points of theory and the real thing.

The correct formal starting point is given with the most elementary economic configuration. The pure consumption economy is defined by:

$$Y_W = WL \tag{1}$$

wage income Y_W is equal to wage rate W times working hours L,

$$O = RL \tag{2}$$

output O is equal to productivity R times working hours L,

$$C = PX \tag{3}$$

consumption expenditure C is equal to price P times quantity bought/sold X.

The first three equations relate to income, production, and expenditure in a period of arbitrary length.[1] The period length is conveniently assumed to be the calendar

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[1] The three equations are a subset of the complete structural axiom set, see (2014, Sec. 2.2).

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year. Simplicity demands that we have for the beginning one world economy, one firm, and one product.

Figure 1 is the graphical representation of the pure consumption economy.
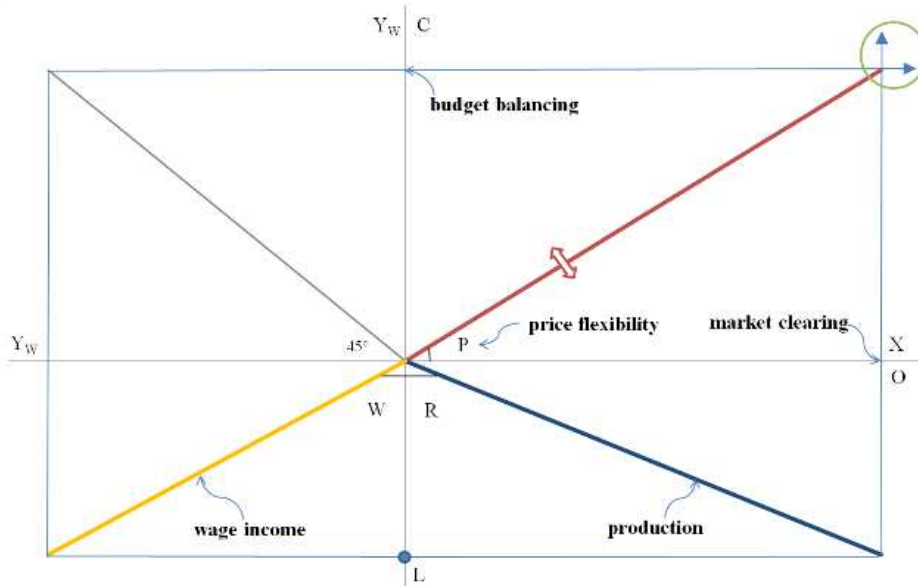

Figure 1: Pure consumption economy with market clearing and budget balancing

At any given level of employment L, the wage income that is generated in the consolidated business sector follows by multiplication with the wage rate. On the real side, output follows by multiplication with the productivity. Finally, the price follows as the dependent variable under the conditions of budget balancing, i.e., $C = Y_W$ and market clearing, i.e., $X = O$. Note that the ray in the southeastern quadrant is *not* a linear production function; the ray tracks *any* underlying production function. Note also that it is methodologically inadmissible to take the assumption of decreasing returns into the premises. Note finally that W is the *average* wage rate if the individual wage rates are different among the employees, which is normally the case.

If the wage rate W is lowered the market clearing price P falls. If the number of working hours L is increased the price remains constant, provided productivity R does not change. If productivity decreases the price rises. If productivity increases the price falls. If wage rate and productivity vary in lockstep the price stays put. Finally, labor gets the whole product and profit for the business sector as a whole is zero. All this can be directly read off from the four-quadrant graphic.

Let us now turn to the underpinnings of Figure 1.

3 The interdependence of markets and the induced inertia of the labor market

The sales ratio is defined as:

$$\rho_X \equiv \frac{X}{O}. \tag{4}$$

A sales ratio $\rho_X = 1$ indicates that the quantity bought/sold X and the quantity produced O are equal or, in other words, that the product market is cleared.

The expenditure ratio is defined as:

$$\rho_{EW} \equiv \frac{C}{Y_W}. \tag{5}$$

An expenditure ratio $\rho_{EW} = 1$ indicates that consumption expenditures C are equal to wage income Y_W, in other words, that the household sector's budget is balanced.

From the first three equations and the conditions of market clearing and budget balancing follows the price as dependent variable:

$$P = \frac{W}{R}. \tag{6}$$

This is the most elementary version of the Law of Supply and Demand for the pure consumption economy with one firm. In brief, the price equation states that the market clearing price is always equal to unit wage costs $\frac{W}{R}$, that is, the market price is determined directly by the wage rate and inversely by the productivity. Employment is not a determinant of the price. The market price formula is testable in principle and fully replaces supply-function–demand-function–equilibrium.

Conditional price flexibility is an algebraic concept. There is no speculation about the behavior of the firm or the consumers. The formal system is fully determined without any behavioral assumption.

From (6) follows immediately

$$\frac{W}{P} = R \tag{7}$$

that is, the real wage is equal to the productivity.

The crucial point is that the real wage is *not* determined by supply-demand-equilibrium in the labor market. If anything, only the *nominal* wage rate is. The wage rate W may go up or down by an arbitrary percentage rate, this has, due to conditional price flexibility, no effect whatever on the real wage.

The crucial *systemic fact* is: when the product price is determined in the elementary economy by 'supply and demand' in the product market then the real wage cannot be determined by 'supply and demand' in the labor market. Because of this, the general assertion that all markets are cleared by the price mechanism is false. Eqs. (6) and (7) in combination amount to a straightforward refutation of commonplace price theory.

The real wage is determined by the systemic and the production conditions. What is not determined at the moment is the labor input L. Hence, it may well be the case that the actual labor input is below the full employment level.

Because the real wage is determined by the structural properties of the elementary consumption economy and cannot be altered by changes of the wage rate there is no way to effect an employment expansion by lowering the wage rate. Perfect price flexibility in the product market renders the supposed real-wage–employment mechanism in the labor market ineffective.

Employment, wage rate, or productivity are irrelevant for the profit of the business sector as a whole. In the pure consumption economy with budget balancing monetary profit cannot be other than zero. The emergence of profit has been dealt with separately (2015b), suffice it to say here that profit is defined as:

$$Q_m \equiv C - Y_W \equiv (\rho_{EW} - 1) Y_W. \tag{8}$$

Under the condition of budget balancing, i.e., $\rho_{EW} = 1$, monetary profit is zero in all periods. Wage rate changes in any direction have no effect on profit. The structural interdependence of the product and labor market rules wage stickiness out as an explanation for unemployment in the elementary consumption economy.

Employment is inert at any given level; a perfectly flexible price mechanism does not move the economy towards full employment. The familiar story of the 'forces of supply and demand' is false because it ignores the interdependence between product and labor market. Unemployment needs no explanation, it is the natural state in the pure consumption economy.

4 Employment in the investment economy

The economy consists now of the consumption good producing industry and the investment good industry. Each is represented by one firm. The income equation for the differentiated structure follows directly from (1) and is given by:

$$Y_W = W_C L_C + W_I L_I. \tag{9}$$

Eq. (2) is differentiated to:

$$O_C = R_C L_C$$
$$O_I = R_I L_I. \tag{10}$$

Eq. (3) is differentiated to:

$$C = P_C X_C$$
$$I = P_I X_I. \tag{11}$$

The first thing to notice is that income is made the dependent variable. This means, in contradistinction to the pure consumption economy, that the respective prices are now set by the firms. Combined with (4) and (5) the differentiated equations yield the relationship between total wage income and investment expenditures under the condition of market clearing:

$$Y_W = \frac{\rho_{FI}}{1 - \rho_E \rho_{FC}} I$$

$$\text{if} \quad \rho_{XC} = 1, \ \rho_{XI} = 1 \tag{12}$$

$$\text{with} \quad \rho_{FC} \equiv \frac{W_C}{P_C R_C}, \ \rho_{FI} \equiv \frac{W_I}{P_I R_I}.$$

Total wage income increases with the expenditure ratio ρ_E, the respective factor cost ratios ρ_{FG}, ρ_{FI} and investment expenditures I. There is some resemblance with the Keynesian multiplier. The crucial difference is that the Keynesian multiplier says nothing about the price mechanism which is here formally encapsulated in the factor cost ratios. Aggregate demand is formally represented by investment expenditures and the expenditure ratio. The latter does not depend on the idea of a consumption function and can also assume a value > 1, which means that the household sector may also dissave.

Under the condition of budget balancing, i.e., $\rho_E = 1$, and market clearing total wage income depends crucially on the price mechanism, that is, the actual configuration of wage rate, price, and productivity. This variable does not appear at all in Keynes's formalism and this is why it does not work under the condition of stagflation or deflation.

With the next logical step the real variable total employment is defined by:

$$L = L_C + L_I. \tag{13}$$

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The weighted average of the wage rate $W^\emptyset$ follows from (9):

$$Y_W \equiv W^\emptyset L \equiv W_C L_C + W_I L_I \qquad (14)$$

From the differentiated equations (9) to (11) then follows the structural employment function under the condition of market clearing as:

$$L = \frac{1}{1 - \rho_E \rho_{FC}^{\emptyset}} \frac{I}{P_I R_I} \qquad (15)$$

$$\text{if} \quad \rho_{XC} = 1, \rho_{XI} = 1.$$

Employment depends on aggregate demand, i.e., on ρ_E and investment expenditure I at given price and productivity in the investment good industry, as well as on the configuration of average wage rate, price, and productivity, i.e., the factor cost ratio $\rho_{FC}^{\emptyset}$ in the consumption good industry. In more detail this means:

- An increase of the average wage rate $W^\emptyset$ leads to *higher* employment. This follows directly from the interdependence of markets and is exactly the opposite of what behavioral speculation predicts.

- Price increases are conductive to *lower* employment.

- Provided that wage rate and price in the consumption good industry change with the same rate ($\dddot{W}_C = \dddot{P}_C$ and $\dddot{R}_C = 0$ in (15)) there is no effect on employment. In this case, perfect wage-price flexibility has no impact on employment and hyperinflation at full employment is possible as a mathematical limiting case.

- An increase of the expenditure ratio ρ_E leads to higher employment. An expenditure ratio $\rho_E > 1$, i.e., credit expansion, presupposes the existence of a banking system (for details see 2015a).

- Productivity increases lead to lower employment.

- Investment expenditures I exert a positive influence on employment.

These conclusions follow without regress to indefensible behavioral assumptions from the differentiated equations (9) to (11), the dependency assumption, the market clearing condition, and the laws of algebra.

With the inclusion of profit distribution the differentiated income equation grows a bit longer:

$$Y = \underbrace{W_C L_C + W_I L_I}_{\equiv Y_W} + \underbrace{D_C N_C + D_I N_I}_{\equiv Y_D}. \qquad (16)$$

Together with the definition of the average wage rate (14) total employment is now determined as follows:

$$L = \frac{1}{1 - \rho_E \rho_{FC}^{\varnothing}} \left(\frac{I}{P_I R_I} + \frac{\rho_E Y_D}{P_C R_C} \right)$$

$$\text{if} \quad \rho_{XC} = 1, \rho_{XI} = 1 \quad \text{with} \quad \rho_E \equiv \frac{C}{Y}.$$

(17)

In addition to the factors enumerated above profit distribution exerts a positive influence on employment. This factor has been completely overlooked by both Keynes and the classicals. The reason is that both lack the correct profit theory, which of course if fatal for any approach.

About the role of aggregate demand for employment eq. (17) says roughly the same as Keynes said under the condition that the factor cost ratios are fixed. That means Keynes's approach deals with a special case and ultimately does not live up to the claim of generality.

The crucial point, though, is the complete misapprehension of the role of the price mechanism and the interdependence of markets. Keynes shared the belief that a falling wage rate would – in principle – help to clear the labor market. He argued only that this mechanism was too clumsy for all practical purposes.

The fact of the matter is that an increase of the average wage rate relative to the price *increases* employment under the condition of market clearing in the product market. The fatal defect of the price mechanism is that the 'right' factor cost ratios do not come about spontaneously. Just the contrary. If unemployment effects a flexible fall in the average wage rate then unemployment increases. There is a positive feedback loop built right into the structural core of the system. The claim that the market system is basically an equilibrium system that regulates itself with a tendency to full employment is entirely unfounded. Politicians who rely on the advice of representative economists to get out of recession or depression are bound to fail.

> In order to tell the politicians and practitioners something about causes and best means, the economist needs the true theory or else he has not much more to offer than educated common sense or his personal opinion. (Stigum, 1991, p. 30)

Accustomed employment theories are false and have to be replaced. The true theory is not built upon assumptions about human behavior but upon the objective structural relationships that define the monetary economy.

5 Extensions and Conclusion

The extensions of the most elementary market representation are obvious:

- The condition of market clearing has to be lifted, this brings inventory changes into the picture.

- The diverse industries consist of more than one firm; within the firms the wage rates have to be differentiated.

- Government and foreign trade have to be taken into the picture.

These further approximations to the actual economy have to be consistently carried out within the given formal framework.

The main results of the simplified systemic analysis of employment are:

- While it is true in a very general sense that 'supply and demand' determine the product price there is no such thing as supply-function–demand-function–equilibrium. Orthodoxy got the formal representation of the markets and their interaction wrong.

- The Structural Law of Supply and Demand for the pure consumption economy with one firm states that the product price is equal to unit wage costs under the conditions of market clearing and budget balancing.

- The crucial systemic fact is: when the price is determined by 'supply and demand' in the product market then the real wage cannot be determined by 'supply and demand' in the labor market. The clearing of all markets does not happen, the price mechanism does not work as commonly believed.

- Unemployment is the natural state of the pure consumption economy with full price and wage rate flexibility.

- With aggregate demand given in the investment economy, an increase of the average wage rate relative to the price *increases* employment under the condition of market clearing in the product market. The fatal defect of the price mechanism is that the 'right' factor cost ratios do not come about spontaneously. Just the contrary. There is a positive feedback loop built right into the structural core of the system.

- To characterize the monetary economy as an equilibrium system is erroneous and misleading.

With no other of the many fallacious theories orthodox economics has caused more damage than with employment theory.

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