Natural Quantity of Money

The concept of the 'natural' quantity of money plays a pivotal role in Ricardo's monetary theory, which is concerned with monetary regimes with convertible or inconvertible paper money, with or without coins in circulation, where gold is always the standard of money. The role of this standard is to measure the deviations of the quantity of money from its natural level; the price at which the currency can be legally converted into gold, domestically and internationally, determines the ratio that must exist between the currency and its standard. When the market price of gold is equal to the mint price,
the quantity of money is, by definition, at its natural level; when it deviates from it, the quantity of money differs from the natural level in exactly the same proportion, since the price of the standard on the domestic and international market depends entirely and exclusively on the amount of the currency (Works, III: 239). The natural quantity of money (ibid.: 105, 193; VI: 75) is a benchmark signalled by the purchasing power of the currency over gold.

Deviations of the quantity of money from its natural level are automatically corrected only in some monetary regimes, where gold can be obtained at a fixed price (and at a small cost) at home and can be freely exported and imported. The mechanism that ensures that the quantity of money adjusts to its ‘natural level’ relies on individuals’ responses to profitability conditions for arbitraging in gold in the domestic and foreign markets. If the price of gold bullion on the domestic market rises above the mint price, bullion is bought at the Bank or coins are melted and sold on the market, thereby lowering its price and decreasing the quantity of money in circulation. If the market rate of exchange falls (rises) relatively to the mint par (given by the ratio between the mint prices of the standard in the two countries) and it reaches the so called ‘gold points’, which bound the profitability conditions for shipping gold, gold is exported (imported), the quantity of money is reduced (increased) to its ‘natural’ level and the market rate of exchange is once again brought back to level with par.

In other regimes, where the convertibility of the currency into gold is suspended and there are no longer gold coins in circulation, the quantity of money is no longer self-adjusting, but the price of gold bullion and the market rate of exchange still measure the deviation of the quantity of money from the ‘natural’ level. In these cases, however, the ‘uniformity in the value of money’ cannot be maintained (Works, IV: 69), rather, its ‘value must be constantly vacillating’ (Works, III: 139), which, for Ricardo, is a most undesirable state of affairs:

In the present state of the law [Bank of England’s notes were no longer convertible into gold at an official price] they [Bank’s directors] have the power, without any control whatever, of increasing or reducing the circulation in any degree they may think proper: a power which should neither be intrusted to the State itself, nor to any body in it; as there can be no security for the uniformity in the value of the currency, when its augmentation or diminution depends solely on the will of the issuers. (Works, IV: 69 and quoted in I: 359)

Ricardo’s ‘natural’ quantity of money does not require the value of gold to be constant in terms of commodities. This value need neither be calculated by relating the cost of production of gold to the cost of production of commodities, nor is it determined as the equilibrium condition given by the equality of supply and demand of money. Ricardo explicitly denied that one could know precisely what the quantity of money ought to be at a given moment of time and his policy recommendations were always consistent with this premise:

... the demand for circulating medium is subject to continual fluctuations, proceeding from an increase or decrease in the amount of capital and commerce; from a greater or less facility which at one period may be afforded to payments by a varying degree of confidence and credit; and ... the same commerce and payments may require very different amounts of circulating medium. (Works, III: 247)
If the 'natural' level of money is interpreted as an equilibrium level, then a gratuitous inference is drawn from Ricardo's monetary theory: the attainment of the purchasing power parity of gold in terms of commodities among countries (Arnon, 2011: 128).

To clarify the argument, let us suppose that in each country adopting a gold standard the money supply depends on the stock of gold for monetary use, according to some proportionality factor. Furthermore, let us suppose that the demand for money is a proportion of the amount of commodities exchanged, expressed in money terms. From the equilibrium condition - demand of money equals the supply of money - a unique relation is established between the prices of commodities, the stock of gold held for monetary purposes (and hence with the quantity of money) and the purchasing power of gold in terms of commodities. When gold can be freely exported and imported, the equilibrium quantity of gold is determined by the further condition that equal purchasing power in terms of commodities is attained by gold at home and abroad. The equilibrium quantity of gold (and hence of money) is thus made self-adjusting by response to either a change in the relative price levels (price-specie flow mechanism) or in the demand for money (monetary approach; see Humphrey and Keleher, 1982: 154, 322).

In the price-specie flow mechanism, gold outflows are the effect of a negative balance of trade, when exports decrease and imports increase in response to a rise in the domestic relative to the foreign prices. The outflow of gold, by reducing the quantity of money at home and increasing it abroad, provides the adjusting mechanism. Gold movements come to a halt when the purchasing power parity of gold in terms of commodities is attained at home and abroad.

On the other hand, the monetary approach denies that prices of international traded commodities may diverge, since they are determined in a world market where the law of one price prevails. Gold movements respond not to a disequilibrium in the balance of trade, but to a disequilibrium in the money market. If there is an excess of supply of money (relatively to the domestic demand), individuals will turn directly to the foreign markets to buy goods and assets until the equality of demand and supply of money is re-established. In the monetary approach the equality of the purchasing power of gold in terms of commodities is the presupposition rather than the outcome of the adjustment process. Both theories rely on an equilibrium quantity of money (hence gold) to study the self-adjusting property of the system.

On the contrary, in our interpretation (Marcuzzo and Rosselli, 1991, 1994; Marcuzzo, 2002; Rosselli, 2008) the 'natural' level associates the quantity of money not to an equilibrium quantity of gold and to the relative value of gold in terms of commodities constant across countries, but to the equality of the purchasing power of gold relative to the currency at home and abroad. This means that the relative value of gold in terms of commodities may differ, while arbitrage on the international gold market equalizes the price of gold across countries. Furthermore, in our interpretation the enforcement of the law of one (international) price is required only for gold, not for all tradable commodities as is implied by the purchasing power parity condition that is imposed in order to close the gold-standard type of models attributed to Ricardo. This was clearly stated by Ricardo in a letter to James Mill in 1811:

You say... 'the value of the precious metals throughout the globe is uniform', - or rather 'the only difference which can exist is the difference constituted by the expense of carriage'. I should
have agreed with you if you had said 'price' instead of 'value'. If a bill on London for £100 will sell in Hamburgh for £98 or as much of the money of Hamburgh as is equal to the bullion in £98 of our's then I should say that the price of bullion differed 2 pt in the two countries. But when we speak of the value of bullion we mean a very different thing – we mean, I apprehend, to measure it by some other commodity – corn, coffee, hardware or any amongst the thousands of commodities which may be exported. Estimated in either of these commodities money or bullion may differ in value in any two countries, not only all the expenses attending its exportation, but also all the expenses attending the importation of the commodity to be given in exchange for it. (Works, VI: 54–5)

Ricardo was firmly persuaded that, whatever the composition of the circulating medium, the quantity of money that should circulate within a given country, ought to be equal to the quantity that would circulate if the entire circulation were made up of gold, but this does not imply that this quantity is determined by the gold/commodities ratio nor that it must be defined as a determined quantity. The point of having a standard is precisely this: the price signal bypasses the need for a quantity target. Ricardo defined the 'right' quantity as the 'natural' level, but he did not specify what this level was nor did he try to calculate it from the gold/commodities ratio.

In conclusion, there is a profound misunderstanding of Ricardo's thought to attribute him with a naive monetary theory that runs thus: money is only gold, its value depending on its labour content, the price level being the ratio between gold and commodities, internationally equalized through international gold movements, and the quantity of money being adjusted so as to conform to the labour theory of value. Only because of this interpretation does there appear to be a contradiction between the theory of the value of gold and monetary theory, as if Ricardo had two distinct monetary theories: one for the short run, where the stock of gold determines prices according to some form of quantity theory, and one for the long run, where the price of gold determines the equilibrium quantity of money (Laidler, 1975: 217; Blaug, 1985: 198–9; 1995: 31; de Vivo, 1987: 186). It can be shown that this need not be the case.

When Ricardo argues that the value assumed by certain variables is at its natural level, as opposed to market level, he means to draw a distinction between 'permanent' and 'temporary' causes, a distinction that cannot be assimilated to the distinction between short-run and long-run analysis. While the former pertains to the question of which causes are eligible to become part of a theory, the latter pertains to the question of which effects come sooner or are more short-lived than others. This distinction pertains to the nature of the forces involved and not to the time sequence in which they are assumed to operate. A 'permanent' cause should be interpreted as a sufficient condition for something to happen: its effects are certain regardless of the time interval necessary for their implementation. Permanent causes are sufficient but not necessary conditions, since the same effects could be brought about by other causes that Ricardo labels as 'temporary': neither necessary nor sufficient. 'Temporary' causes are not sufficient because either their effects are not certain and may well be offset by the working of more permanent forces or they are not necessary because a given effect cannot be unambiguously imputed to them.

For instance, a change in the conditions of production of a given commodity is a 'permanent' cause of a change in its price, which means that the price will certainly change, although not every variation in commodity prices can be imputed to variations in the
conditions of production. On the contrary, a change in demand is a 'temporary' cause of a change in prices, not because its effect does not last long enough, but because it is not certain. Similarly, when discussing natural wages, Ricardo granted that money wages can be pushed downwards when the supply of labour grows faster than demand but that if there is at the same time a change in the conditions of production of wage goods, making them more difficult to produce, their money prices rise and the overall effect is an increase, not a decrease, in money wages. The former, the depressing effect on wages of a large supply of labour, can be taken as an example of a temporary cause, while the latter – an increase in the price of wage goods – is a permanent cause of wage increases.

It is our contention that the definition of the natural quantity of money in Ricardo is given by analogy with the definition of natural wages and natural prices. First of all, the natural quantity of money, like other natural magnitudes, puts to rest the forces that determine its changes. When the price of a commodity is at its natural level (it reflects the condition of production and the uniformity of the rate of profit in all industries) there is no incentive to modify the quantity produced. Similarly, when the quantity of money is at its natural level, the market price of gold is equal to the mint price and the quantity of the currency is not changed by the convertibility of the currency into gold. When observing variations in the price of a commodity it is necessary to distinguish between permanent causes that may have generated it – which modify the natural price – and temporary causes, which affect the market price: the uniformity of the rate of profit is the signal that makes the distinction possible. When observing variations in the quantity of money, we know that they may be permanent, that is, reflecting changes in the structure of the economy that requires a different natural level for the quantity of money, or temporary. The conformity of the price of gold to the mint price allows us to make this distinction.

The natural quantity of money does not serve the purpose of providing the target to the monetary authority, which should react only to the signal coming from the price of the standard:

The issuers of paper money should regulate their issues solely by the price of bullion, and never by the quantity of their paper in circulation. The quantity can never be too great nor too little, while it preserves the same value as the standard. (Works, IV: 64)

It is thus ironic that Ricardo, who placed importance on a price rather than a quantity, ended up by being interpreted as the inspirer of the 1844 reform of the British monetary system that fixed the precise amount of currency that could be issued by the Bank, thus giving birth to the first monetary recommendation that identified in a given amount of money the target for the monetary policy.

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