

in England. Import prices would rise suddenly, often due to a weaker pound sterling, the English currency.<sup>1</sup>

The post-Keynesian economists in Cambridge University, England who helped Keynes write the *General Theory* strongly subscribed to the cost push approach. They advocated income policies, i.e., negotiations between unions and big firms to curb avoidable wage and price increases, with the process supervised and, if need be, enforced by the government.<sup>2</sup>

## 4.2 THE CLASSICAL EMPHASIS ON DEMAND CONSTRAINTS

The classical argument against cost push is that while firms and unions do have economic power, such power is limited. First, whatever price a firm sets, it faces a demand curve for its product demand curve that constrains its revenue and thus profits. A profit maximising firm cannot and will not simply raise price. Thus a monopolist will raise price only in the inelastic range of the demand curve, not beyond it, since profits will fall.

Second, there is a huge difference between cost push in one sector and economy wide cost push. When firm(s) use their power to raise their price total revenue, i.e., total expenditures in that firm or sector (say steel, where typically there are a few firms which act as a cartel) can go up at the expense of some other firm or sector. But economy wide, total expenditures cannot go up arbitrarily. Total expenditures or nominal GDP is determined and can be constrained by macroeconomic policies. An economy wide cost push induced rise in the price level hence requires real output to fall. The resulting slack in output and employment would push prices lower, thus negating the initial cost push. Barring unusual circumstances, the only way unions or firms can push up prices is to cause a general recession, which is unlikely. From a classical perspective, what is possible, and does happen, is that unions can push up wages and prices in the unionized sector. This would tend to lower prices and wages in the non-unionized sector, keeping the total price level unchanged. Thus, while price for one firm or industry is determined by supply and demand, for the *whole economy*, the price level is *demand determined*.

Finally the most damaging classical argument against cost push inflation is to stress the distinction between a onetime increase in the price level versus a sustained inflation. A one-time jump in the price level, for whatever reason, leads to a one-time jump in inflation, which gets reversed in the next period (what is called the base effect). From a classical viewpoint, inflation is a sustained rise in prices – operationally for several periods. Sustained inflation requires the price level to go up every period since  $\pi = (P_t - P_{t-1})/P_{t-1}$ . Even if cost push influences do push up the general price level, sustained inflation requires nominal

<sup>1</sup> From microeconomics, price equals marginal cost. So a shift up in the cost curve leads to a higher price, i.e., cost push inflation can occur even in competitive markets where price is determined by demand and supply.

<sup>2</sup> The leading post-Keynesian economists were Richard Kahn (originator of the multiplier concept), Joan Robinson, Nicholas Kaldor and Roy Harrod. In developing country macroeconomics, the structuralist approach as in Lance Taylor (1991) embodied such cost push behaviour. The Scandinavian small open economy models as in Aukrust (1995) also incorporate exchange rate changes driving inflation.

demand (GDP) to grow at a certain rate every period. This cannot happen without *continuing* demand stimulus and associated macroeconomic policies.

This crucial point can be clarified from the last column of the EAPC example in Table 2.E. Although in any given period, the EAPC determines  $\pi$ , the *corresponding* nominal GDP growth to sustain that  $\pi$  is determined by macroeconomic policies. The rise in  $\pi$  in Periods A to G was possible because simultaneously nominal GDP growth rose from 7% to 10.5%. In period G, the inflation rate  $\pi$  has stabilized at 7.5% based on the EAPC, but that holds only because nominal GDP is growing at 10.5%. From a classical perspective, a statistically robust prediction of inflation based on cost factors does *not* by itself indicate what the underlying demand factors are, let alone what precise policies can reduce inflation. Going back to our example, if policy makers did not allow nominal GDP growth to rise as high as 10.5%, then inflation would be lower in LRE. Later in this chapter, we will develop a model to precisely reconcile the EAPC with demand driven inflation.

Specifically, Milton Friedman argued, based upon the Quantity Theory, that ultimately money growth, which is controllable by the central bank, determines inflation. Cost push factors do not. Hence the central bank should set a target for money growth. By doing so, it exogenously determines nominal GDP growth.

In the simplest possible case when money demand (see Section 4.5) is constant, then

$$g(Y) = g(M)$$

From the GDP growth identity  $\pi = g(Y) - g(y)$

Combining the two equations above,  $\pi = g(M) - g(y)$

and also  $\pi = g(M) - g(y^*)$  in Long Run Equilibrium.

These are the two equations crucial to Friedman’s analysis. Since real GDP growth will tend to be at its value of  $g(y^*)$  on average, in the long run it follows that reducing money growth will reduce inflation. On these grounds Friedman made his famous statement “*Inflation is always and everywhere a monetary phenomenon*” which he repeated elsewhere.<sup>3</sup>

The above equation is the algebraic expression for the well-known and oft cited statement: “Inflation is too much money chasing too few goods.” In the modern economy, we could expand that to say “Inflation is too much money chasing too few goods and services.”

It can be seen from the equation that arithmetically,  $\pi$  will fall if  $g(y)$  increases for a given  $g(M)$ . Based on the NRH, monetary policy cannot affect  $g(y)$  in the long run. Further, microeconomic and other policies can increase  $g(y^*)$ , but, realistically speaking, at best, by a few percentage points. However, monetary policy can affect  $g(M)$  a lot more, pushing it into double and even triple digits. Based on these considerations, it makes sense to ignore  $g(y^*)$  and just look at the connection between  $g(M)$  and  $\pi$ . Hence, as a first approximation, inflation is determined by money growth.

<sup>3</sup> He first made this statement in “Inflation: Causes and Consequences”, (1963), based on two lectures he gave in then Bombay. See also entry under Quantity Theory in International Encyclopedia of the Social Sciences. He stated this again in his debate with Solow that will be discussed in this chapter.