STABILIZTION POLICY OPTIONS IN A "LOWER AND LONGER" (L&L) INTEREST RATES ENVIRONMENT

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During episodes of severe depression, interest rates can approach the zero lower bound (ZLB) and stay there for a fairly long time. Mainstream macroeconomic theory (the so-called New Consensus Economics) then fails to provide adequate guidance under a Taylor type rule to conventional monetary policy. Various alternatives have been suggested to revitalize monetary policy in such a situation. The major alternatives can be divided into three categories viz. (i) those that do not recognize the ZLB as an effective floor (ii) those based on the Keynesian liquidity trap and (iii) those based (implicitly) on Hawtrey's credit deadlock. We discuss these alternatives with a special focus on QE (Quantitative Easing). In particular, we draw attention to the largely ignored fact that QE had been suggested by the British economist Hawtrey at least as early as 1931 in the policy debates on ways to emerge from the Great Depression.

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1. Introduction

It is not exactly clear how the phrase "lower and longer" (henceforth L&L) crept into policymaking usage to denote a situation where interest rates have sunk to extremely low levels either hitting the *zero lower bound* (ZLB) or staying close to it for a fairly long period.[3]The unprecedented low levels of interest rates in the developed world (and to a lesser

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[2] Dr. C. Rangarajan has, in his long career, fulfilled the twin roles of an erudite scholar and a top- echelon policymaker to perfection. While wishing him many more years ahead of good health and happiness, I have pleasure in paying my tribute to him via this modest contribution.

[3]For example the US fed funds rate (the official policy rate) hit an unprecedented low of 0.8% in September 2008 and remained below 1% till October 2015. In the UK, the official bank rate was below 1% right from February 2009 and even in August 2016 it was as low as 0.25%. Japan's official short-term discount rate fell below 1% from August 1995 onwards and remained steadily below 0.04% from May 1999 to April 2006. It remained low throughout the next decade and in a historic first became negative at -.0.03% in August 2016 remaining negative thereafter right upto December of 2023, though there is some talk of getting it out of negative territory in the current year. In India too, the repo rate was lowered in the wake of the global crisis from

extent in the less developed world) during the Global Financial Crisis and the Covid-19 pandemic presented a challenge to received economic theory. Of course, episodes of low interest rates had been experienced before but these episodes were usually short-lived and regarded as transients which subsided quickly. For example, in the US, the yields on 4 to 6 months CP (commercial paper) which had risen from 4% to 6.25% in the two years preceding the Great Depression dropped to 2% in Summer of 1931 but remained there only till late 1931 when they rose back dramatically to the older levels.[4] The novel feature of the recent episodes of low interest rates was that they exhibited a considerable hysteresis, persisting much longer than in the earlier episodes. Hence the term "lower and longer" (L&L) to refer to this phenomenon.

2. <u>New Consensus Macroeconomics (NCM)</u>

We refrain from reviewing the vast literature on the role of monetary policy in the working of the macro-economy and instead focus on the currently prevalent standard mainstream version of new consensus macroeconomics (NCM).[5]

The macro dynamics of the NCM (in its closed economy version) is usually described in terms of the following four equations:

$$Y_g(t) = \alpha_0 + \alpha_1 Y_g(t-1) - \alpha_2 r(t) + u_1(t) \tag{1}$$

$$\Delta\pi(t) = \beta_1 Y_g(t) + \beta_2 E_t(\pi(t+1) + u_2(t) \tag{2}$$

$$i(t) = E_t \pi(t+1) + \delta_1 Y_g(t) + \delta_2(\pi(t) - \pi^*) + r_n \tag{3}$$

$$r(t) = i(t) - E_t \pi(t+1) \tag{4}$$

where the Greek letters are all positive parameters, $u_i(t), i = 1,2$ are stochastic shocks at time t, $E_t(.)$ denotes expectations of a variable formed at time t and Δ is the usual first difference operator.

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a ruling high of 9% in July 2008 to 5% in April 2009 and remained there till March 2010. From this date, an upswing in the repo rate cycle was initiated, which culminated in a peak of 8% in January 2014. A downward movement was initiated in April 2019 (in the wake of the Covid pandemic) with the rate dipping to 4% . This historic low (by Indian standards) was maintained till April 2022, when the Covid wave started receding and the threat of inflation became imminent. The rate was then raised in small steps to the current level of 6.5% (8th December 2023).

[4] CP yields were generally regarded as a good proxy for the monetary policy stance in the US till in 1967, the FOMC's *Memoranda of Discussion* adopted the federal funds rate first as an indicator of monetary policy and later (about 1970s) as an explicit target (see Carlson and Wheelock 2018).

[5] The *New Consensus Macroeconmics* (NCM) which established itself in the 1980s as the *weltanschauung* of the macroeconomics profession, essentially represented an amalgam of the then dominant New Classical School (Lucas, 1972; or Sargent, 1979) and the nascent Neo-Keynesian view (Mankiw, 1989; Phelps, 1968; Taylor, 1980) – grafting the micro-foundations of Keynesian sticky prices and wages on to the macro aspects of the Friedmanian NAIRU (Non-Accelerating Inflation Rate of Unemployment) and the doctrine of rational expectations. Our formulation closely follows Clarida et al (1999). Its extension to the open economy is given in Arestis (2007), and Angeriz and Arestis (2007). See Nachane (2018) and Nachane (2023, forthcoming) for a discussion on the new consensus macroeconomics and its critique in the Indian context. Its applicability to the current economic situation in India is discussed in Rangarajan, Nachane and Ray (2023).

The variables are defined as follows:

$Y_g(t) = output\ gap\ [(Y(t) - Y_n)];\ Y(t)\ is\ current\ output\ and\ Y_n\ is\ the\ Friedmanian$
$\qquad NAIRU\ (non\text{-}acceleration\ inflation\ rate\ of\ unemployment)$

$\pi(t):\ inflation\ \ rate;$

$i(t):\ policy\ rate\ usually\ a\ short - term\ nominal\ interest\ rate;$

$r(t):\ actual\ real\ interest\ rate;$

$\pi^*:\ target\ inflation\ rate,$

$r_n:\ equilibrium\ real\ rate\ of\ interest\ (corresponding\ to\ Wicksell's\ "natural\ rate")$

Equation (1) is the *aggregate demand equation* and postulates that the output gap (actual GDP minus potential GDP) depends on (i) its own past value (ii) its expected future value and (iii) the real rate of interest. This equation derives from the inter-temporal optimisation of lifetime expected utility subject to a budget constraint (see Blanchard and Fisher (1989)).

Next in (2), we have the vertical Phillips curve with inflation determined by (i) the current output gap (ii) past inflation and (iii) future expected inflation. This can be interpreted as the short-run aggregate supply function.

Equation (3) is a Taylor-type monetary policy rule specifying the policy (nominal short-term) interest rate as a function of (i) expected inflation (ii) deviation of current inflation from the "inflation target", (iii) past output gap, and (iv) the equilibrium real rate of interest r_n, which corresponds to Wicksell's *natural rate of interest* (see Amato (2005), Neiss & Nelson (2001) and Fontana (2006)), whereas equation (4) is a definitional identity relating the *actual real rate of interest* to the difference between the nominal rate and expected inflation.

While the Taylor monetary policy rule (or any other such rule) is certainly not followed mechanically by any central bank, there is no denying that such roles can serve as an important directional guidepost for monetary policy in general. However, the guidepost role is seriously challenged when the nominal interest rate approaches or attains the ZLB in an attempt by monetary authorities to get the economy out of a severe depression. In a severe depression inflation is likely to be well below the target level and output much lower than the potential output. Thus the Taylor rule (3) would point to a lowering of nominal interest rates into (hitherto largely unexplored) negative territory.

While Japan had been confronting this situation since the 1990s, the situation confronted both the developed and emerging economies   immediately after the global financial crisis (GFC) from 2008-11 and then (to a lesser extent) again in the wake of the Covid pandemic (2019-21). A bewildering number of possible ways out of the ZLB conundrum were suggested by economists, a few of which were   adopted by policymakers. The numerous suggestions can be classified taxonomically into three broad   categories :

1. Suggestions that the ZLB is not unsurmountable
2. Those based explicitly on the Keynesian theory of liquidity preference and the *liquidity trap*
3. Those which are based on the Hawtreyan concept of *credit deadlock*[6]

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[6] Most of those suggesting these measures seem to be unaware of their origin in the 1920-40 works of Hawtrey (see Hawtrey (1928, 1932, 1950 etc.)

We discuss these three categories with reference to their applicability generally but with special emphasis on the EME (emerging market economies) context.

3. <u>ZLB Is Surmountable</u>

The basic problem with lower and longer interest rates is that it makes currency more attractive to hold than bonds as the liquidity offered by currency outweighs the low interest on bonds. One way out of the ZLB impasse would be then to cancel this advantage of currency over bonds by some taxation mechanism over the former. Thus if the nominal interest on bonds were made say -0.5% , in the absence of a penalty on currency holdings, there would be a flight to currency and bond markets would collapse. However if a penalty on currency holdings were levied amounting to 0.75% say, then such a situation could be averted. Several mechanisms for such a penalty have been suggested the earliest being that proposed by Gesell (1916) of a requirement of periodically affixing stamps on currency notes, so that the longer one held a currency note the greater the penalty. A modified version of this taking modern technology into account. would be to replace the stamp requirement by that of magnetic strips (see Goodfriend (2000)). Even in its modern version this scheme would present several difficulties in implementation and therefore ranks low on feasibility.

A more practicable alternative is demonetization of large notes (see Rogoff (2017)). The logic behind this is that this will force the hoarders of large notes (mainly in the shadow economy) to change their currency hoards into smaller notes thus increasing the costs of carrying and storage considerably. While the logic is appealing, this method is likely to work only where the large notes denomination substantially exceeds the denominations most favoured in the bulk of national transactions, or alternatively the large notes are primarily used for hoarding in the shadow economy rather than for ordinary transactions. If this condition is not fulfilled the demonetization experiment is likely to have very little impact on the shadow economy —the Indian demonetization of 2016 being a recent example. Demonetization also poses severe problems for the agriculture and rural sectors, where most transactions are conducted via cash.[7]

Possibly, the most promising alternative in this category seems to be the *dual currency* proposal of Eisler (1932), revived again by Buiter (2009), Agarwal and Kimball (2015) and Rogoff (2017). This begins with the consideration that currently in most countries two types of currencies circulate side by side viz. paper currency (coins and notes) and electronic currency (credit and debit cards, wallets, UPI (unified payments interface) etc.). According to this proposal, the government should declare that all government contracts, taxes and fees etc. are *denominated* in electronic currency (though *payable* in both types of currencies). The two currencies are related via an exchange rate fixed by the government. The government can easily impose a negative interest rate on electronic currency and then set the exchange rate between the two currencies in such a way that the paper currency also gets slapped with a negative carrying cost (see Rogoff (2017), p. 58).

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[7] Once again the Indian experience of 2016 is an important pointer.

Apart from the feasibility of implementing a negative interest rate, the more important issue is its desirability. With very low or negative interest rates, bond markets are likely to freeze up in view of the low/negative yields on risk free government securities, which would drive large financial institutions like insurance companies, pension funds etc. (who are obliged to give guaranteed rates of return on their liabilities) to invest in more risky assets. Banks would face a deposit flight as retail depositors switched to equity markets, or physical assets such as precious metals or commodity futures. The traditional functioning of banks viz. loans against collaterals will erode bank profitability requiring large scale infusions of capital by the government in nationalized banks, while many private banks would fail.

Overall, negative interest rates hardly appear to be an appealing method in getting out of a deep recession, more so for an emerging or less developed economy.

4. <u>Dealing with the *Liquidity Trap*</u>

Keynes view of the rate of interest differed fundamentally from the earlier *classical* view. The rate of interest is not (according to Keynes) the price which equilibrates the demand for investment funds with the supply of savings (as the classicals supposed). Instead, in the Keynesian liquidity preference theory, the interest rate is the reward demanded by economic agents to relinquish their control over liquidity. As is well known, Keynes distinguished between three motives for holding money viz. the transactions, precautionary and speculative motives (see Keynes (1970)[1936], p. 170). The first two motives are a predictable function of income, and Keynes did not focus much on them. The speculative motive is what Keynes concentrated on, as in his view, that was unpredictable, and played a key role in determining market interest rates. Assuming that people have only two choices of the medium in which to hold their funds viz. money (liquid but earning no return) and infinite duration bonds (consols) (which are not fully liquid but which earn some interest given by the coupon rate).[8] The *long-term* market rate of interest r^* in the General Theory is determined by the demand for liquidity (money was defined in Keynes' time, usually, as cash plus bank current account deposits)) –the so-called liquidity preference schedule- and the fixed supply of money M^* injected in the economy by the central bank . The liquidity preference schedule is downward sloping (as the reward for parting with money decreases, people desire to hold more of it) and it flattens out towards the right i.e. the demand for money becomes infinitely elastic at a particular low level of interest, which is dubbed the *liquidity trap* and occurs because of two factors (i) at very low rates of interest, there is always the expectation that the interest rate may rise and (ii) a small rise in the interest rate imposes huge losses on bond holders when the interest rate is very low[9].

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[8] It is a straightforward matter to generalize Keynes' analysis to the multi-assets case with differing degrees of liquidity and returns streams (see e.g. Patinkin (1956), Tobin (1958) etc.

[9] Consider 2 situations. First, suppose a person holds a bond whose face value is 100 and the coupon rate is 5%. If the current market rate of interest is also 5%, then the market price of the bond is 100. Suppose the market rate of interest rises by 25 basis points (0.25%) to 5.25%, the price of the bond will fall to 95.23 (since now only this amount of investment is needed to get a return of 5). Next, suppose on the other hand the initial market rate of interest had been 1%, the price of the same bond would have been 500. Now if the rate of interest rate rises to 1.25%, the price of the bond would drop to 400. Thus whereas in the first situation the

We now consider some policy measures suggested to deal with the ZLB problem within the framework of the *liquidity trap* theory. It is important to remember that the interest rate considered by Keynesian theory is the long-term rate of interest. The following proposals essentially apply to the nominal policy rate which is a short-term rate. It then follows that the proposals implicitly assume a conflation between short and long-term interest rates with the latter closely following the former with some lag. This point assumes significance when we consider Hawtrey's analysis in a subsequent section.

Revising the Inflation Target : Perhaps the easiest to implement and the most popular suggestion is to raise the inflation target – a measure first suggested by Blanchard et al (2010) and later by Ball (2014). According to this suggestion, the announced inflation target by the central bank (say 4%) should be revised upwards (say 5%). The logic for this seems to be to give more room for the central bank to react to adverse shocks (see Nasir (2021) p. 206)). An alternative justification can also be given in terms of the Wicksellian *cumulative process*. If the central bank has high credibility an upward revision of the target will lead to expectations of a higher future inflation rate. The latter would imply a lower $r(t)$ (see equation (4) above) or what in Wicksellian terms is termed the *market rate of real interest*. Since the *natural rate* r_n is more or less fixed in the short run, the market real rate of interest falls below the natural rate setting off a cumulative expansion in output and prices, the strength of the process depending on the extent to which the market and natural rates differ.

Blanchard et al (op.cit.) are aware of the limitations of their suggestion. Firstly, market participants may interpret the target revision as a ploy to reduce the government debt incurred during the crisis, in which case they may view the change as temporary and refuse to revise their long term expected inflation. Secondly, if central bank credibility is low, the public may expect either a quick fallback to the old target or more upward revisions to the target. The behavior of the *real* interest rate then becomes quite volatile and unpredictable. The success of this method thus hinges on whether the central bank publishes its inflation forecasts along with the methodology of generating these forecasts, puts the monetary policy deliberations in the public domain etc.

A Price-Gap Target :One problem with the inflation target is that a shortfall in one year is not reflected in a revision of the next year's target. Hence a stronger version of the above proposal is to announce an upward-sloping target path for the price level (see Svensson (2003)) or as Bernanke (2003) suggests, a proposal to bridge the *price-level gap* defined as the difference between the actual price level and the price level that would have prevailed if deflation had been avoided and price stability maintained at the pre-deflation level. This method has the advantage that (unlike the inflation targeting method) the shortfalls in any period are loaded onto the next period's price-gap, prompting firmer expectations of future inflation among market participants.

But apart from the operational considerations relevant to the above two proposals, there is a more fundamental issue at stake. Wicksell's *cumulative process* is an analysis of *secular* changes in prices (see Hansson(1990), p. 261). In the short run the analysis is far more complicated (see Laidler (1972), Iwai (1981), Leijonhufvud (1981) etc.). The cumulative process is aborted in the presence of sticky money wages and only if the macroeconomic

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loss to the bond holder is about 4.75% of the initial price, in the second situation the loss on the initial price is 20%.

shocks are large enough to break through this wage inflexibility will the cumulative process apply.[10]

Reducing the Long-term Interest Rate : Another proposal, which avoids the Wicksellian objection mentioned above is to reduce the long-term interest rate, which is usually the primary consideration for long-term consumption and investment plans. This reduction in long-term interest rates can be achieved via the so-called *Operation Twist* in which the central bank buys longer-term securities in exchange for short-term securities. This results in lowering short-term security prices and raising the prices of long-term securities resulting in a *twist* to the yield curve which rises at the short end and falls at the long end (see Bernanke (2002) and Meltzer (2001)). A well known limitation of this method is that its application depends on the store of long-term securities with the public and by the reluctance of large financial institutions to part with safe long-term securities in exchange for short term paper.

Fiscal Stimulus : As is well known, Keynes in his General Theory. was quite pessimistic about the effectiveness of monetary policy in surmounting the liquidity trap and therefore advocated an aggressive fiscal policy through public expenditure/tax cuts as a way of stimulating the economy out of a deep recession. Such advocacy of public works programmes occurs much earlier in the writings of other contemporaries such as Pigou (1912, 1913) and Robertson (1913, 1926). Hawtrey (1933) another major contemporary, however, was quite opposed to this method of getting out of a recession. Hawtrey's position is very close to what was then described as the *Treasury view*,[11] though it is not very clear whether he was the chief architect of this view (having been closely associated with the Treasury for a very long period). Interestingly, he (Hawtrey) felt that public expenditure financed by bonds, would simply displace private expenditure (an early expression of the *crowding out* effect, more fully explored later by Spencer and Yohe (1970)).[12] However, if the fiscal deficits were financed by deficit financing (creation of new money) they would have a useful role to play in ending the *credit deadlock*. But then it was the associated money creation, rather than the direct fiscal expenditure which was the key element in the revival (see Hawtrey (1928) and Laidler and Sandilands (2002), p. 524).

Currency Depreciation : Another proposal frequently made in the context of overcoming the ZLB problem refers to currency depreciation (see McCallum (2000), Orphanides and Wieland (2000), Svensson (2001) etc.) supplemented with a switchover to a *crawling peg* [13]regime. This is combined with an exit strategy of abandoning the *crawl* at a future date in favour of inflation or price level targeting.   A currency depreciation can act as a stimulus to the export sector and also as a signal for future inflation. This will serve to firm up future inflationary expectations and thereby an expectation of a real interest drop[14]. Svensson (2003)

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[10] In short, the cumulative process applies only under flexible money and wages, which can only prevail in a modern economy in the long run.

[11] This was explicitly stated by Winston Churchill, Chancellor of the Exchequer on 15 April 1929 (see Peden (1984), p. 167, Fn.1).

[12] Hawtrey's position on bond-financed deficits was somewhat nuanced . He recognized , for example, that public expenditure funded by government borrowing out of idle balances could increase the ratio of consumer income to money (see Hawtrey (1925) and Sandilands (2010)).

[13] A *crawling peg* regime involves allowing the domestic exchange rate to fluctuate within preannounced bands (typically about $\pm 2\%$ about the central rate). The central bank commits to maintain the exchange rate within these bands via active participation in forex markets.

[14] Note however, the Wicksellian caveat entered above.

describes this process in detail. However, while this option may be available to a small open economy, it is doubtful if a major country with a large export sector can adopt this strategy without considerable repercussions in the global commodity and forex markets. Other trading partners who would most likely be facing the same situation (as happened during the Great Depression and the more recent Global Financial Crisis) would most likely follow suit destabilizing global markets. Besides the exit strategy may not be fully credible either with domestic economic agents or with trading partners.

Svensson's Foolproof Strategy : Svensson (2001, 2003) suggests a combination of two of the above proposals as (what he calls) a *foolproof strategy* –the two proposals being currency depreciation and a price-gap target. Specifically, his strategy consists of announcing and implementing the following three measures:

(i)   An upward sloping *price-level target path,* starting above the current price level by the *price gap* that has to be eliminated.
(ii)   A depreciation and a *crawling peg* of the currency (see footnote 13)
(iii)   An exit strategy committing the Central Bank or Commerce Ministry to abandon the peg in favour of inflation or price-level targeting once the price-gap has been bridged.

The success of this strategy crucially depends upon the credibility of the Central Bank and is subject to the same criticisms that we have noted earlier when discussing currency depreciation and a price-gap target in a stand alone context.

5. Quantitative Easing (QE) : An Unacknowledged Debt to a Forgotten Economist

Perhaps the most significant departure from conventional monetary policy instruments comes with *Quantitative Easing (QE).* As the Global Crisis unfolded in the US, by December 2008, the federal funds rate had attained the zero lower bound (ZLB) being in the range 0 to 0.25%. But the financial crisis was in full swing with the real sector now contracting and unemployment climbing up. With the scope for conventional monetary policy drying up, unconventional monetary policy measures had to be tried. One way to do this is by operating on market expectations – the so-called *forward guidance* under which the central bank can resort to a commitment to maintain the policy rate at the ZLB for a sufficiently long period of time (see Dotsey (2016)). But such forward guidance cannot be credible unless backed by a large portfolio of securities at the central bank. Thus the central bank needs to expand its balance sheet by purchasing government and private securities from the market – a process commonly dubbed as quantitative easing (QE).

Apart from *forward guidance*, the central bank can also operate on the cost of long-term credit by purchasing long-dated government securities, MBS (mortgage based securities), corporate bonds etc. and thereby driving down long-term yields on such assets. Additionally QE is sometimes resorted to reduce the risk premium on illiquid or impaired markets by central bank purchases of such tainted assets.

The FRB conducted the QE operations in three phases. QE1, concluded in the first quarter of 2010, with a total of $1.25 trillion in purchases of mortgage-backed securities, $300 billion in Treasury bonds and $175 billion in federal agency debt.The second phase QE2 commenced on 3 November 2010 and involved an additional purchase of $600 billion of longer-term Treasury securities. It was terminated at the end of June 2011. The third and final phase of quantitative easing QE3 commenced on 13 September 2012, and involved Fed purchases of an additional $40 billion of MBS each month till the phase lasted. Unlike the earlier two phases, which were ended abruptly, QE3 was tapered beginning 18 December 2013 to end on 29 October 2014. This was accomplished by a progressive reduction of $ 10 billion in the Fed's $85 billion monthly asset purchases schedule.

In India too QE was attempted, not in response to the Global Financial Crisis but later during the Covid pandemic. On 8 April 2021, the RBI announced the G-Sec Acquisition Programme G-SAP1 under which the RBI would purchase Government securities (of maturities ranging from 2 to 14 years) amounting to Rs. 25,000 crores. The G-SAP2 was announced on 4 June 2021for an aggregate amount of Rs. 15,000 crores, covering Government securities of maturity between 5 to 14 years.

Most observers attribute a measure of success to QE in restoring the US economy from a deep recession (see Baumeister and Benati (2010), Chung et al. (2012)etc.). However as QE was in parallel operation to other measures such as conventional monetary policy easing and fiscal stimulus, there is always a problem of attributing success for the actual recovery to the various measures individually. The recovery may be said to have begun in the US from 2010 onwards, judged by the metrics of GDP growth, gross capital formation and unemployment (see Tables 8 in Nachane (2018, p.137). Some recent empirical evidence attributes considerable success to QE policies (see in particular Wu and Xia (2016), Kucharčuková et al (2016), Cochrane (2015), Nasir (2021) etc.).

In spite of its popularity, there is virtually no recognition in the recent literature to the fact that the idea of QE not only dates back to the British economist Hawtrey but that he made contributions to the development of it as a policy tool (during the Great Depression of the 1930s) owing to his long association with the British Treasury (1919-1944). To substantiate our contention, we try to set QE in a proper historical context by discussing Hawtrey's *Credit Deadlock* and *Instability of Credit* theories.

6. <u>Credit Deadlock & Instability of Credit</u>

Hawtrey's ideas span the two decades 1913-32 and are developed in five monographs viz. Hawtrey (1913, 1925, 1928, 1931 and 1932). Hawtrey is now remembered by the majority of our profession if not as the originator, certainly as the chief proponent of the Monetary Theory of the Trade Cycle. But the various details of his analysis seem to have been largely ignored. One such feature is the inherent *instability of credit*. Hawtrey assigned a great deal of importance to the role of *dealers* (by which he meant merchants and wholesalers) in the trade cycle. Dealers are extremely sensitive to changes in the *short-term rate of interest*. This rate varies directly with the demand for commercial loans, the latter in turn reflecting parallel movements in general macroeconomic activity. Hawtrey's monetary theory of the trade cycle derives its appellation from the fact that he held monetary shocks to be the prime cause of

cycles[15] in the sense that (i) monetary shocks are capable of generating cumulative expansions and contractions (ii) non-monetary causes can possibly generate a disturbance but it cannot be cumulative unless underwritten by an accommodative monetary policy.[16]

The upswing of the trade cycle (according to Hawtrey) arises if the central bank reduces its discount rate or increases its purchase of securities from banks and the public. This is shortly followed by a credit expansion via a reduction of the interest rate on loans combined with an easing of terms under which loans are granted. Credit expansion is associated with a rise in *consumers' outlay* (defined in Hawtrey to include consumption expenditure together with outlays on *new* investment goods). The key agent in the cyclical process is the dealer who (in contrast to the manufacturer) is extremely sensitive to even small movements in the *short-term* interest rate[17]. As consumer outlays increase, dealers raise their inventory levels with additional orders to manufacturers. Manufacturers respond by first increasing the production levels and as full capacity is approached, by raising prices. The rising prices further stimulate profits since Hawtrey (alongwith most contemporary macroeconomists) believed that wages responded with a lag to prices (see Kessel and Alchian (1962)). The process thus becomes cumulative (see Haberler (1964, p.17-24) (originally published (1937)) and Deutscher (1990, p.58-68) for more details). The upswing continues until the credit expansion is reversed with a rise in the bank rate or open market sales. It is interesting to note that Hawtrey (see (1928), p. 98) did not believe that the upswing would terminate of its own accord but that it could continue indefinitely were it not for the constraints on monetary expansion due to the *gold bullion standard* prevailing at that time (1925-31) in Britain (see Eichengreen (2019) and Drummond (1987)).

The downswing of the cycle is also cumulative and follows the obverse route of the upswing. As credit contracts, prices fall but wages being inflexible downwards, profits contract rapidly forcing cutbacks in production. This forces inventories to lie idle with dealers, borrowing is reduced further along with consumers' outlay and so on. Reviving the economy from a downswing depends to a large extent on how severe the depression is. If the depression is not too severe, then the liquidation of loans brought about by debtors who fear an increase in their debt burden (due to the actual and expected fall in prices) would restore bank reserves to their normal levels and banks once again become wiling lenders and try to allure borrowers with lower interest rates and relaxation of loan conditions. However, this process works reasonably well only if pessimism among the dealers is not too high regarding future evolution of consumers' outlay.

However, if the depression is severe, then recovery might present serious problems. This situation Hawtrey famously termed as a *credit deadlock*, which is best described in his own words (Hawtrey (1933), p. 29) :

" if the depression is very severe, enterprise will be killed. …no rate of interest, however low, will tempt dealers to buy goods .., if the borrower anticipated a loss on every conceivable use that he could make of the money".

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[15] This view is nowadays associated with Friedman & Schwarz (1963), ignoring its earlier development by Hawtrey (1913) and Currie (1933, 1934).

[16] In the absence of a change in money stock, a real shock is not transmitted significantly beyond the industries in which the shock occurs.

[17] The reason for this is that the dealer is highly l*everaged* with his loans to own capital ratio being quite high.

Additionally, as noted by Bernanke (2003), in a severe depression additional factors may come into play, " Since the early 1990s , borrowers in Japan have repeatedly found themselves squeezed by disinflation or deflation, which has required them to pay their debts in yen of greater value than they had expected. Borrower distress has affected the whole economy, for example by weakening the banking system and depressing investment spending".

The instability of credit is enhanced by the pro-cyclicality of the velocity of money. Cash balances are reduced (increased) when credit is expanding (contracting) and prices are rising (falling). This phenomenon accentuates the cyclical movements of consumers' outlay.

7. <u>Hawtrey and Quantitative Easing</u>

Hawtrey had given considerable thought to the policy measures that could be adopted to emerge out of the credit deadlock. In Hawtrey (1933, p.141), the possibility of a reduction in *nominal wages* in line with the price level to restore manufacturers' profit levels, was examined. But he quickly rejected this proposal as entailing severe social and political dislocations. A reduction in *real wages* was a more practicable alternative to serve the same purpose. This could be achieved either by inflation or currency depreciation.[18]

In his evidence before the Macmillan Committee (1931a, p. 273-277) Hawtrey succinctly outlines his main proposal for emerging out of the deadlock during the Great Depression. When asked about his views on monetary policy, he said that for the short term he would favour further reductions in the short term interest rate (and possibly the cash reserve ratio of banks, though he does not mention this latter explicitly) supplemented by open market purchases or in his own words "to carry the process of credit relaxation to its limit". But he clearly realized that this policy cannot continue for too long after the deadlock is broken, for fear of a runaway inflation. In the long run he laid down the objective of stabilizing the price level (see Deutscher (1990), p. 84-85 and Clarke (1988)). Laidler (2004) calls this double-barreled strategy as the *Purvis Principle*[19].

Hawtrey emphasized open market operations as the best (or perhaps the only) way to get out of the credit deadlock. "… the purchase of securities by the Central Bank, which is otherwise no more than a useful reinforcement of the Bank rate …becomes an essential condition of the revival beginning at all."(Hawtrey (1931b).

While Hawtrey assigns a great deal of significance to open market purchases by the *central bank*, he does not draw a clear distinction between traditional open market operations and these special open market purchases (now termed *quantitative easing* (QE)). The main distinction hinges upon three factors :

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[18] In a gold standard currency depreciation by increasing the country's export competitiveness increases the gold inflow into the country and helps to raise money supply.
[19] This is called so after the famous Canadian economist who is said to have described this strategy at a private meeting as "sound money and plenty of it".

(i)   Under an expansionary OMO, the central bank purchases assets (usually long-term securities) from banks and financial institutions, but this is funded through some existing central bank assets such as short-term securities, foreign currency holdings, gold etc., so that banks get hold of relatively more liquid assets while the size of the central bank balance sheet is left unchanged. QE, on the other hand, funds the asset purchases from banks and other financial institutions by increasing the monetary base, in the process expanding the size of the central bank balance sheet.

(ii)   While OMO purchases are confined to government securities, asset purchases under QE can be extended to other financial instruments including corporate bonds, MBS etc.

(iii)   OMO are typically addressed to maintain the market short-term interest rates around a desired level, QE is directed at influencing the long-term interest rate.

So far as the first factor is concerned, even though Hawtrey did not specifically make this distinction, his writings make it clear that what he had in mind was very close to what we now understand by QE. The second factor is subsumed implicitly under Hawtrey's *credit relaxation.* As a matter of fact, Hawtrey (1950, p.75) did not hesitate to suggest that " they (banks) can create credit by themselves buying securities in the investment market", which is a step undertaken with a great deal of caution by most countries embarking upon QE.[20] On the third factor, Hawtrey was clear that the Central Bank can only control the short-term interest rate with very little influence on the long-term rate. On balance, one may say that the profession today has been less than just in allotting Hawtrey due credit as the originator of QE. Hawtrey's views were, however, quite popular with a section of American economists in the 1920s and 1930s notably Currie (1933, 1934), Young (1924), Simons (1936) etc. (see the discussion in Humphrey (1971), Johnson and Rees ((1962), Sandilands (1990), Laidler (1993, 2004) etc.).

8. <u>Conclusion</u>

This paper has examined several policy alternatives to kick-start the economy from a severe depression. As per the taxonomy we have favoured the proposals fall under three categories viz. (i) those that believe that in these days of electronic money, cash is an anachronism and that the ZLB should not be treated as an insurmountable barrier (ii) those that rely on the Keynesian *liquidity trap* and (iii) the few that rely on Hawtrey's *credit deadlock* (without perhaps explicitly realizing it). The first two of these proposals rely primarily on the policy interest rate to the virtual neglect of money supply. The last relies on the policy rate (bank rate in Hawtrey's times) as a first line of action to be followed by QE if necessary. To quote Laidler (2006, p.157-158) " (in the *credit deadlock*) the problem is not a high elasticity of the economy's demand for money with respect to the long rate of interest, but a low elasticity of its demand for bank credit with respect to the short rate… The solution to a credit deadlock …is vigorous open market operations to bring about an increase in the monetary base and therefore the supply of checkable deposits, that mere manipulation of short term interest rates is usually sufficient in less depressed times".

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[20] In India, for example, banks' investment portfolios should be within the framework of RBI Circular No. : BP BC 20/21.04.141/2014-15

The question that naturally presents itself, is which method is to be recommended. A proper judgement on this question is obfuscated by the fact that in both the Great Depression of the 1930s and the more recent Global Financial Crisis, several methods were running parallel making it difficult to econometrically untangle their separate influences. And it goes without saying that the success of any proposal would be context-dependent.

The one lesson that the Global Financial Crisis has brought home is that economic ideas never become obsolete. By surrendering ourselves completely to the most recent mainstream theory, we close our minds to the valuable thinking of the past (both theoretical and empirical). Policy improvement can only occur when we assimilate and embed our inherited knowledge within the current state of our understanding.

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