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DAVID LAIDLER ON MONETARISM

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### **ABSTRACT**

David Laidler has been a major player in the development of the monetarist tradition. As the monetarist approach lost influence on policy makers he kept defending the importance of many of its principles. In this paper we survey and assess the impact on monetary economics of Laidler's work on the demand for money and the quantity theory of money; the transmission mechanism on the link between money and nominal income; the Phillips Curve; the monetary approach to the balance of payments; and monetary policy.

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## **1. Introduction**

David Laidler has always been a monetarist and was an important player in the debates marking the rise and fall of that doctrine. The literature on the demand for money was the focus of his primary contribution. He did pioneering work on the long-run demand for money function in the mid-1960s. In the four editions of his *The Demand for Money* from 1969 until 1993 he acted as the major domo of the literature. Indeed his work was at the heart of the discussions over the long-run and short-run demand for money function, the stability of money demand, the missing money conundrum, the buffer stock approach, and the resurrection of long-run money demand. He also worked energetically in the 1960s, 70s and 80s on the key monetarist theoretical issues of the transmission mechanism of monetary policy, the shortcomings of the IS-LM model, the short-run and long-run Phillips curve, and the monetary approach to the balance of payments.

In addition to his work in monetary and macro theory and the econometric evidence, Laidler had important insights in monetary policy. His views evolved from strong advocacy of Friedman's 1960 constant growth rate rule (CGR) in the 1960s, to advocacy of monetary targeting and the case for gradualism in the 1970s; in the 80s, he supported the case for constrained discretion, in the 90s, the case for central bank independence and inflation targeting, and today, the case for putting M back into monetary policy. In the rest of the essay we review David Laidler's work on each of the above topics.

## **2. The Demand For Money and the Quantity Theory of Money**

Much of David Laidler's early work was based on Milton Friedman's modern quantity theory of money (MQT) (Friedman 1956). According to the MQT, nominal income and the price level were determined by the interaction of money supply and money demand. Money supply was assumed to be determined by the exogenous forces of the monetary standard, monetary authority actions, and the banking system. Money demand –the community's desired holdings of real cash balances-- was posited a stable function of a limited number of important economic variables including a scale variable (permanent real income or wealth, several rates of return including the yields on securities (both long and short run), the own return on money and the return from goods and services (the expected rate of inflation). Given a stable demand function, changes in nominal income are determined by changes in the quantity of money. In the short run, in the face of nominal rigidities, change in money impacts real output, in the long run changes in money are fully reflected in changes in the price level.

Friedman viewed money as a durable good yielding a flow of services over time. According to Laidler (1982) Friedman's approach differed markedly from the prevailing Keynesian view which emphasized the motives for holding money. Friedman changed the question from "why money is held" to "given that money is held", what are its empirical determinants".<sup>1</sup> This led to an enormous body of research beginning with Friedman (1959) estimating the parameters of a stable money demand function.

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<sup>1</sup> Later Laidler (1997a) departed from the durable view approach. He argued that it "abstracts from its social function as a medium of exchange and a unit of account".

Laidler's research in the 1960s was at the heart of this investigation (Laidler 1966 a and b). He extended Friedman's original money demand function which found a stable long-run relationship between real cash balances and permanent income,<sup>2</sup> and Latané's work (1954) which found an inverse relationship between money balances and the long-term interest rate, to produce a stable long-run relationship for seven decades between real money balances, permanent income and both short-term and long-term interest rates for the U.S.<sup>3</sup> Laidler also was involved in the controversy over the short-run demand for money function which raged in the 1960s and 70s. Friedman's money demand function was postulated as a long-run equilibrium relationship in which agents' desired holdings of real cash balances equaled their actual holdings. Chow (1966) and others introduced a variant concept of short-run money demand according to which it may be costly for agents to adjust their desired money holdings to changes in the money stock or to changes in the arguments of money demand. Chow's specification involved adding a lagged real balance term to the long-run money demand function. By so doing, one could estimate the speed of adjustment between the short run and long run.

The short-run version of the demand for money function was used by many advanced country central banks as a key component in their monetary policy strategies beginning in the early 1970s. However, as early as 1973 Goldfeld presented evidence showing instability in the short-run money demand function

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<sup>2</sup> Meltzer (1963) using wealth instead of permanent income obtained similar results.

<sup>3</sup> A large number of studies surveyed in various editions of Laidler's *Demand for Money* found powerful evidence on the long-run stability of money demand. This evidence, as well as the case made by Friedman and others, including Laidler for the UK (1976) of the role of monetary expansion in explaining the great inflation of the late 1960s and 1970s led to the adoption of monetary aggregate targeting in the US and many countries (to be discussed below).

used by the Fed. This finding as well as others by him-e.g., “The Case of the Missing Money” (1976) surveyed in Laidler (1980) was used to make the case against the monetarist approach to targeting monetary aggregates. Laidler in a number of publications (Laidler 1980, 1982, 1984) emphasized that the problems with money demand were largely problems with the short-run adjustment mechanism.<sup>4</sup>

Laidler (1984, 1990) posited an alternative approach to modeling short-run money demand based on the precautionary motive for holding money. He argued that in the short run agents could be viewed as being off their long-run demand curves and cash balances could be viewed as a buffer stock which agents held while the price level and the other arguments of money demand adjust. Evidence by Hendry and others (1991), who used cointegration techniques to isolate long-run equilibrium relationships between real balances and real income and interest rates, and an error correction technique to ascertain the temporal adjustment speeds of these variables, provided supporting evidence for his view.

### **3. The Transmission Mechanism on the Links Between Money and Nominal Income**

David Laidler studied transmission mechanisms to learn why changes in the quantity of money were mirrored in changes in nominal income, and to determine how the change in nominal income was divided between change in the price level and change in real income. How did the behavior of firms and households respond to changes in the quantity of money? Laidler’s views at the time, in the 1970s and 80s, were allied to those of Brunner and Meltzer, Friedman, and Phelps rather than

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<sup>4</sup> Although work by Bordo and Jonung (1978, 1987, 1990), discussed by Laidler, found extensive long-run evidence that institutional changes also shifted the long-run money demand function.

with the views of those identified with Keynesian perspectives. He was a consistent critic of models, including multiequation econometric models current at various points in time.

Laidler (1978,1982) reported on work on the transmission mechanism in terms of one variation or another on the IS-LM model. The model was concerned with the determination of aggregate demand.

Laidler observed that the proposition that the structure of the economy is independent of the policy adopted has been challenged, but the proposition is a basic premise of research on the transmission mechanism.

Laidler turned to the discussion of money, first omitting quantitative significance of its effects. Firms and households hold various assets, one of which is money whose services yield diminishing marginal utility or product. In an economy initially in asset equilibrium, an increase in the quantity of money disequilibrates the structure of asset holding because the implicit yield on money declines. Substitution from money to other assets takes place, driving down their rates of return. Some rates of return are observable, others are implicit, such as rates of return on consumer durables.

Laidler then described the generally accepted version of the first stage of the transmission process. A general fall in rates of return is an increase in the present value of the income stream yielded by existing assets and thus a rise in their market values relative to the supply price of newly produced assets. This disequilibrium elicits an increase in output of durables, both consumer and producer. In addition, the price of current consumption in terms of future

consumption foregone falls, so expenditure on non-durables may also increase. In an IS-LM model, the effects on whatever the category of expenditure are amplified by a multiplier process that is partially offset by subsequent interest rate responses.

There is disagreement about the quantitative significance of the expenditure effects of the transmission process. In the 1950s and 1960s, the interest sensitivity of investment as the key to the transmission mechanism was a generally accepted view that has since receded, although some British economists in 1980 still regarded it as the critical link.

Large-scale econometric models have frequently omitted monetary variables from expenditure functions with the exception of firms' investment decisions, narrowing the channels they investigate. They discover only weak links between money and economic activity.

Laidler (1982, 115-117) summarized studies using different statistical methodologies on the money-income relationship, concluding that a clear-cut correlation is easier to find for the US than for Canada or Britain, but an IS-LM type of transmission mechanism is as hard to pin down for the US as for others. He commented on studies of the importance of monetary factors in influencing business investment in fixed plant and equipment that show investment responds to interest variations. These studies have flaws, according to critics.

Laidler ended his commentary on various approaches to linking money or interest rates to expenditure in different countries in the three decades since the 1950s by listing three shortcomings of the IS-LM model i) It does not deal adequately with the division of nominal income between real income and prices; ii)



It ignores linkages between the government budget and the behavior of the money supply; iii) It is a model of a closed economy. These shortcomings cast doubt about the evidence that he had thus far considered about the transmission mechanism.

Continuing his discussion of the IS-LM model, Laidler added that it holds the price level constant, and determines the level of real income. In adapting it to the determination of nominal income, a common practice has been to replace real variables with nominal ones, on the assumption that the way in which variations in the quantity of money affect nominal income is independent of the breakdown of changes in nominal income between changes in prices and changes in real income.

In fact, however, how much nominal income will change in response to a given change in the quantity of money depends upon how much of that change occurs in real income and how much in the price level. This implies that the mechanisms which determine the interaction of prices and output must be an integral part of the transmission mechanism which links the quantity of money to nominal income (Laidler 1982, 150). A more fundamental reason for regarding price and output interaction as part of the transmission mechanism arises from analysis of the rational expectations hypothesis, discussed by Laidler at a later point.

The expectations augmented Phillips curve has become the centerpiece of models dealing with price and output interaction. In the literature there are two alternative accounts. One interprets the relationship in equilibrium terms, the other in disequilibrium terms. Laidler finds the idea of a transmission mechanism hard to square with the equilibrium interpretation of the curve, originally proposed by Irving Fisher in 1926, and adopted by Lucas, Sargent, and Barro, in Laidler's

description, as the neo-Austrian approach to macroeconomics. If market clearing prices were always determined by the intersection of aggregate demand and aggregate supply curves, it would be impossible for discrepancies between demand and supply prices to occur and portfolio disequilibria underlying the aggregate demand side would not arise. The transmission mechanism would be that of Walrasian general equilibrium economics. Therefore, some degree of price stickiness is required to prevent markets clearing and to set a disequilibrium transmission mechanism to work. Laidler adds that it cannot be claimed that this interpretation has well-established micro foundations, but it has the advantage of treating prices as being set by firms rather than by markets dominated by specialist price setters (Laidler 1988).

Each firm in the economy forms an expectation of the price it must charge to maintain constant its real level of sales. Suppose each firm sets its actual price above or below that level depending on whether it wants to contract or increase its level of sales. For the economy as a whole some level of output and sales exists at which the number of firms that want to expand just equals the number that want to contract. At that output level the general price level index resulting from the individual firms' price-setting behavior will equal an index of prices they expected would keep their sales constant. If output and sales exceed this level, there will be a preponderance of firms wanting to contract, so the actual price level will be above the expected price level.

An increase in the quantity of money leads to an increase in demand for goods and services at any price level. The increased demand, amplified by a

multiplier process leads to a higher level of real output and real sales. The number of firms wanting to contract increases. They face quantity disequilibria. As these firms revise upward the prices they set for their individual products, the price level will rise relative to its expected level.

An alternative description of this process is the response to a higher than equilibrium quantity of money. It causes attempts to substitute other assets and current consumption for money. This behavior by households increases firm sales. If output does not immediately increase, inventories decline, firm holdings of money and trade credit rise. The firm increases prices as an integral part of its response to the asset disequilibrium.

Laidler (1975b) reviewed research on interaction of money wages and unemployment, early research treating the supply of labor and employment as a positive function of the difference between actual and expected level of money wages. Expected money wages depend on expectations about the price level and labor productivity, all unemployment on this approach being of the voluntary search type. Phelps' (1968) original account of money wage unemployment interaction has firms forming expectations about the level of money wages that will maintain constant employment, setting wages above or below that level depending on whether they want to expand or contract their labor force. A natural level of search unemployment emerges in which there is equality between expected and actual wages on both sides of the market. In Phelps' early work (1968), unemployment varies as a result of voluntary quits. In his later work, this is no longer the case, as money wages are tied down by long-term contracts (Phelps and Taylor 1977).

In Mussa's research (1976), the number of employees and man hours worked per employee are variables, chosen by the firm along with wages, rather than responses by the supply of labor to wages set by the firm. Laidler found this approach a complement to the contracts literature as a basis for generating wage and price rigidity to permit deviations of unemployment from the natural level to be interpreted as involuntary. That condition would arise from rational behavior, not in the face of arbitrary wage rigidity, but in the face of a failure of wages to fall fast enough to keep the labor market cleared, when adjustment costs and other factors make it rational for agents to set wages by contract for extended periods (Laidler 1975, 1978, 1990).

Laidler (1975a, 1975b) then proceeded to replace the constant expected price level implicit in the IS-LM model with inflationary expectations as proximate determinants of the behavior of prices. He traced the consequences of an increase in the monetary expansion rate occurring when the economy is initially in a full equilibrium situation. He first attributed the formation of expectations of inflation to observation of the time path of actual inflation and extrapolating from it in such a way as to ensure that, if a constant inflation rate persists over time, the expected inflation rate will come into equality with it.

If an increase in the rate of expansion of the money supply exceeds that necessary to validate anticipated inflation, it will lead to a build-up of real money balances whose implicit rate of return will begin to fall relative to that on other assets. A process of substitution into other assets and into current consumption will

be set in motion, with interest rates, both observable and unobservable, falling. The increase in current production that ensues will set in motion a multiplier process.

As production and employment increase, firms tend to raise their prices, and money wages rise to levels in excess of the values these variables were initially expected to take. This involves an increase in the actual inflation rate relative to the expected rate. In time, the actual inflation rate influences the expected rate, so the latter also begins to rise. Two interrelated effects on variables involved in the transmission mechanism follow. One is upward pressure on the rates of interest which assets denominated in nominal terms bear; the other is an increase in the opportunity cost of holding money. This accentuates the portfolio disequilibrium which sets going the first stage of the transmission mechanism. It also accelerates further the inflation rate through its effect on price-setting behavior. The process is stable and the new equilibrium to which the economy will eventually move and the path by which it is reached can be described, as Laidler does.

At the new equilibrium, like the initial one, the economy will operate with output not at its natural level, The expected rate of inflation will be higher, so the quantity of real balances held by the public will be smaller. If money is not super-neutral, i.e., the natural output level is not independent of the inflation rate, real rates might be either higher or lower. In either event, a higher and more rapidly rising volume of nominal expenditure would be accompanied by higher nominal interest rates. During the transition to lower real balances, the rate of inflation must exceed the rate of monetary expansion and might follow a cyclical path. If

nominal interest rates at first fall but end up higher than initially, they must on average rise during the transition.

Laidler (1975a) defended the propositions of the economy's new equilibrium as supported by empirical evidence. The assumption that the principal determinant of the expected inflation rate is the actual inflation rate has been challenged by the rational expectations approach. It argues that rational economic agents will not make systematic errors. They will act as if they form their expectations about the inflation rate by using the forecast that would be yielded by a correct model of the economy in which they are operating and as if they expected every other agent in the economy to form his or her expectations the same way.

The approach downplays the point that gathering and processing information is costly; and many agents might not find it worthwhile to compute the optimal forecast of the inflation rate. Agents are not automatically endowed with knowledge of the economy's structure, so learning about it must be an ongoing process. If agents are bound by long-term contracts, they will be unable to act on new information; however, it affects their view of the future. To act upon the expectation of the inflation rate and anticipate the behavior of the inflation rate is not easy.

Laidler added that under rational anticipations, any change in the monetary expansion rate, unaccompanied by an appropriate step change in the level of the money supply, will lead to an instantaneously explosive inflation or deflation unless the money market is cleared by an instantaneous and unforeseen step change in the price level before those anticipations become effective. Otherwise, as soon as it is known that the rate of monetary expansion is about to change, agents must

recognize, not only that the long-run equilibrium rate of inflation has increased, but also that, in the absence of a step fall in the money supply, the economy must move to the higher price level associated with an increased velocity of circulation. The latter change, if it is foreseen, involves a step jump in the price level and hence an infinite rate of inflation for an instant. Rational agents would flee from money and generate an explosion in the price level. This problem turns up only in an extreme form of rational expectations.

Laidler (1982, 134-135) proposed a looser version of the hypothesis that would recognize agents' knowledge of the way in which the economy works is imperfect, that data on the behavior of particular variables is expensive to generate and process, and that changed expectations do not lead immediately to changes in activity. The looser form would insist on generating a more accurate forecast of the behavior of inflation than could be had simply by extrapolating from past data on that variable, and to do so at a cost which makes the exercise worthwhile. For some agents at least, it is possible to use extraneous information on the money supply and to act upon that forecast.

If the rate of monetary expansion increased and this led some firms to expect an increase in the inflation rate, they would increase prices of their output at a more rapid pace, without any intervening chain of asset disequilibrium or output change being necessary to prompt such behavior. The transmission mechanism operating through portfolio disequilibrium and output changes would never be called into play, and monetary policy would have no short-run real effects. These propositions follow from the extreme form of rational expectations. Even if only

some agents act upon rational expectations, their activities imply the existence of yet another channel whereby monetary changes affect nominal income and expenditure, one which operates directly through expectations and their influence on price behavior.

The rational expectations hypothesis is destructive for the analysis of the transmission mechanism as operating through the chain of asset disequilibrium and output changes. This is an important implication of the work of Sargent and Wallace and Lucas.

Rational expectations makes it possible for variations in the quantity of money to directly affect nominal income, specifically prices, without generating evidence that expenditure decisions are sensitive to variations in interest rates or any other relative prices. Such linkages come into play and are observable when the consequences of monetary change are not fully anticipated by agents.

#### **4. The Division of Nominal Income Between the Price Level and Real Income in Terms of the Expectations Augmented Phillips Curve**

Monetarists attribute most of the variations in nominal income due to variations in the quantity of money to fall primarily on prices rather than real income. The Phillips Curve in its augmented form, Friedman (1970, 221) stated, provided “the missing equation” in the monetarist model of inflation. The British view in 1970 of the determination of the price level was that exogenous factors accounted for it, and monetary policies, if they affected nominal income, would change real income (Laidler 1982, 127-29). Monetarists argued that inflation, relative to expectations, would be low in recessions and high in good times. The



coefficient on expected inflation would be equal to unity and an error learning process would lead to the formation of expectations. Any constant actual inflation would come to be fully anticipated.

Laidler (1975a) concluded that it is generally accepted that inflation varies with the level of aggregate demand, and that there has been a swing to the monetarist view that in the long run there is no significant inflation-output trade-off. He found substantial disagreement on the question of how long it takes for the economy to converge to the long-run solution. He believes monetarists are now willing to agree that exogenous variables affect the behavior of the price level temporarily, while monetary factors determine long-term trends and Keynesians are now willing to agree that monetary factors determine long-run price trends, but still stress the short-run importance of exogenous variables.

Laidler sees rapprochement between monetarists and Keynesians on the empirical properties of the Phillips curve but not on its theoretical basis. On the one hand, a view on inflation unemployment interaction expressed by Phelps and Friedman stressed that disequilibrium in the labor market might affect real wages instead of nominal wages, and what might be critical to nominal wages would be what was happening to the general price level. On the other hand, there is a view of the augmented Phillips curve as an aggregate supply curve, an interpretation which Irving Fisher had earlier adopted.

Laidler (1982, 6) noted that the aggregate supply view of the Phillips curve raises issues that are not considered in the traditional monetarist subject matter. If the Phillips curve is an aggregate supply curve, that amounts to saying fluctuations

in output and unemployment are voluntary choices of individuals who make expectational errors about prices in markets which are continually clearing. Deviations of output and employment from the levels they would attain were expectations correct, Laidler agrees is a serious problem but he rejects Willem Buiter's (1980) representation of this theory of unemployment as "The Macroeconomics of Dr. Pangloss" (Laidler 1982, 17). In the aggregate supply curve approach, unemployment occurs not because markets fail to bring together all willing buyers and sellers in mutually satisfactory trades, but because markets and other institutions fail to provide enough information to generate accurate expectations on which trades are based. This makes the Rational Expectations Hypothesis an obvious complement to the aggregate supply curve interpretation of the Phillips curve. Agents have an incentive to use all available information in forming expectations to avoid making systematic errors.

Laidler says if individuals then make only random errors, and yet markets clear, two questions arise. One is why a predominant number of agents in the economy is in error in one direction, so that aggregate output and employment deviate from their natural rates. Another is why do fluctuations in output and employment observed in an actual economy display a pattern of serial correlation characterizing the business cycle.

An answer to the questions has been provided by Robert Lucas, Thomas Sargent and associates. The answer is a theory of the business cycle that derives from the Austrian business cycle theory of the interwar period proposed by Hayek and von Mises, based on the idea that all market phenomena are the outcome of

voluntary choices of maximizing individuals. Lucas et al have gone further than their Austrian predecessors by postulating that output, employment and prices fluctuate as a result of voluntary choice in markets that always clear. Laidler (1982, 76) admires the theory but denies its basic assumption that all markets always clear, in particular markets for many components of final output and above all, the labor market. For the Neo-Austrians, all unemployment is voluntary. For other macroeconomists, some unemployment is involuntary (Laidler 1990).

Laidler argues that the non-clearing market approach to the analysis of inflation-unemployment interaction does not conflict with the notion of rational expectations if the concept is interpreted as influences on expectations other than quantity signals, such as observations on the past behavior of the money supply as providing information on the way to set prices, or in an open economy, prices ruling elsewhere, or variations in exchange rates.

What the non-clearing approach needs to explain, however, is why there is not immediate adjustment of prices to a market-clearing level in response to output signals in a conventional transmission mechanism between money and aggregate demand. The reason for the tendency to under-react to quantity signals, Laidler states, is the time it takes for agents to determine whether a shock that gave rise to the signal is transitory or persistent. In addition, the existence of contracts prevents variation of wages and prices and lengthens the response to quantity signals.

The debate on whether markets always clear or do not, according to Laidler, is not another round in the controversy between monetarists and their opponents. Agreement was much closer between them by 1980, when he was writing, than

earlier on the stability of the demand for money function and about the empirics of output-inflation interaction. What still divides the two camps, as it did in the 1960s, is opinion on the proper conduct of macroeconomic policy, about which discussion by Laidler is introduced after consideration of monetarism and the open economy (Laidler 1982, 34-35).

## **5. The Monetary Approach to the Balance of Payments and Exchange Rate Analysis**

Monetarism became important outside the US, not least in Britain, in alliance with the monetary approach to the balance of payments, whose advocates postulated the existence of a stable demand for money function as an empirical hypothesis, transforming the approach from an accounting framework into a body of substantive theory. Initially, advocates anchored the real income argument of the function by assuming full employment, but soon replaced this assumption with an expectations augmented Phillips curve analysis of price-output interaction. The monetary approach provided the means whereby monetarist hypotheses were made relevant to economies other than the US, which, under the Bretton Woods system approximated a closed economy.

Until 1971 in any country other than the US, the arguments of a stable demand for money function were beyond the direct control of the domestic authorities, so money supply was an endogenous variable that had to adjust to the demand for money. This means that in the UK in the 1950s and 1960s, causation ran from nominal income to money, rather than the reverse. This did not embarrass monetarists, provided they attributed most of the changes in nominal income over

that period to causes originating abroad. Although the augmented Phillips curve teaches that there is no stable long-run inverse trade-off between inflation and unemployment, in post-war UK the data displayed such a relationship down to 1967.

The monetary approach provided two reasons for the UK experience. One was that in a fixed exchange rate system, prices of tradable goods sold domestically, in the long run were determined on world markets. The domestic price level therefore in the long run behaved in line with prices in the world at large. Expectations by agents would incorporate this behavior. World prices were relatively stable until the late 1960s, and so were inflation expectations. Because the expectations term in the augmented Phillips curve equation will be an exogenous constant or time trend, the data will exhibit a stable and persistent inflation-unemployment trade-off.

Laidler reported two opposing views on UK stop-go in the 1950s and 1960s and subsequent deterioration of the economy's performance. Keynesians assumed that under the Bretton Woods system, the UK's high marginal propensity to import, in conditions promoting high capital utilization, produced a low and acceptable inflation rate but balance of payments pressure forced a policy reversal. The monetarist opposing view on stop-go was that high rates of domestic credit expansion that accompanied high levels of demand, under fixed exchange rates, resulted in balance of payments problems as an alternative to inflationary pressure (Laidler 1981b,1985).

The Keynesian solution was that, depreciation of the currency that adopting flexible exchange rates would permit, would offset balance of payments effects of a

high propensity to import, so that the economy could operate at a higher level of capacity to achieve rapid growth without the constraint of the balance of payments. What undermined this promising strategy in their view was exogenous shocks and trade union activism in the 1970s.

Monetarists, on the other hand, regarded the deterioration of the UK economy in the 1970s as the predictable inflationary outcome of expansionary policies under exchange rate flexibility that raised aggregate demand with no influence on the growth of real income. A domestic inflation problem replaced a balance of payments problem.

The monetary approach to the balance of payments was relevant not only to Britain's performance but also to the international spread of inflation, as the repercussions on the world of US monetary expansion in the 1960s culminated in the breakdown of the Bretton Woods system (Cross and Laidler 1976). Laidler adds that the analysis of the monetary approach performs less well applied to the international monetary system since exchange rates floated in the early 1970s. Although the data support the analysis of the behavior of exchange rates as consistent with efficient asset markets, evidence does not support the postulate of the monetary approach that the equilibrium value of the exchange rate between any two currencies mirrors purchasing power parity. The data under flexible exchange rates show systematic and persistent deviations from purchasing power parity. It nevertheless underlies the behavior of long period averages of data. A generally accepted explanation of these patterns is not yet at hand (Laidler 1981b).

## **6. Monetary Policy**

David Laidler was a long time advocate for Milton Friedman's (1960) constant growth of money supply rule. Based on the evidence of a stable money demand function Friedman and Laidler argued that if the monetary authorities were to set the growth rate of some monetary aggregate (preferably M2) equal to the long-run growth rate of the real economy adjusted for any secular trend in velocity that long-run price stability could be maintained (Laidler 1973). Like Friedman he was opposed to fine tuning—using monetary policy to stabilize short-run movements in real output. He also favored using the monetary base rather than short-term interest rates as the monetary policy instrument. The rapid runup of inflation in the UK in the 1970s from low single digits to close to 30% Laidler attributed to excessive money growth to finance fiscal deficits (Laidler 1976). His solution to high inflation in the UK and US in the 1970s was to follow a policy of gradualism—gradually lowering (by 1-2% per year) the rate of money growth towards the long-run growth of the economy. He argued that since it took over a decade to build up inflation it would take the same amount of time to return to price stability (Laidler 1982).

Over the next decade later Laidler significantly changed his views. Based on the evidence of instability in money demand, especially of the long-run money demand function reflecting institutional change, he lost his faith in monetary rules and became an advocate of “constrained discretion”( Laidler 1981a,1997b).

“It is a defensible position that a policy regime which permits the monetary authority to use discretion in the sense of their best judgement, in influencing

money growth in pursuit of a precisely defined inflation target might be preferable to having it tied down by a rule for its behavior” (Laidler 1997b, 80).

He also became an advocate for the current set of policy arrangements— inflation targeting and central bank independence – on the grounds that they would deliver both policy transparency and credibility (Laidler 1997a).

Laidler attributed the failure of the monetarist experiment in the early 80s to a number of factors. First, he down played the importance of shifts in the demand for money function in the 1970s and 80s. These, he argued, reflected both financial innovation (which could have been adjusted to) and changes in regulations which in turn were a consequence of the buildup of inflation before the monetarist experiment (Laidler 1997a).

A more important problem was the way in which the Bank of Canada and other central banks hit their monetary aggregate targets. Rather than follow the monetarist prescription of using the monetary base to hit their money growth targets, which Laidler calls “active money”, central banks followed “passive money” (Laidler and Parkin 1975). They used their estimates of the short-run demand for money function (based on the Goldfeld specification) to solve for the short-term interest rate needed to hit their stated money target. This made money supply endogenous and responsive to whatever shocks would drive the demand for bank credit (Laidler 1999)<sup>5</sup>. Finally, he criticized the original monetarist approach to

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<sup>5</sup> In (Laidler 1990, chapter 6), he argues that the lagged dependent variable in the short-run demand for money function, which appears to support the passive view, can be in a model where money causes and leads all the variables upon which money demand depends. In this interpretation, the short-run demand for money function is not structural but a peculiar reduced form of the model, and the coefficient on the lagged dependent variable is an amalgam of the key coefficient in the transmission mechanism and hence subject to the Lucas (1976) critique. [We thank David Laidler for this insight.]



inflation, which focused on the influence of expected inflation on money demand (Laidler 1977, 1997b). According to that view the costs of expected inflation were trivial, and hence could be easily dealt with by a gradualist policy. This approach ignores money's role as unit of account and medium of exchange and the distortions inflation imposes on the payments and accounting systems (Laidler 1997b, 2003).

Despite his later criticism of the early monetarist approach to policy rules, he continued throughout his career to emphasize the basic monetarist principle that inflation is a monetary phenomenon. Moreover, now that monetary policy is being conducted in most advanced countries without the explicit use of any monetary aggregates, Laidler warns that conducting monetary policy without money is like having “Hamlet without the Ghost”—that monetary aggregates convey information about the transmission mechanism that is crucial to the effective conduct of policy (Laidler 2003).

## **7. Conclusion**

David Laidler has been a major player in the development of the monetarist tradition. As the monetarist approach lost influence on policy makers he kept defending the importance of many of its principles. As monetary theory evolved during the past four decades he kept up with the changing models but did not change his philosophy. He also has made us aware that many of the original monetarist ideas— especially the long-run neutrality of money, and the importance of rules – have now been absorbed into the mainstream. His research on money demand and his development into the rapporteur par excellence of the rise and fall

of the demand for money and of the monetarist approach to monetary policy guarantees him a place in the Pantheon of that field.

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