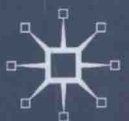




THE NEW PALGRAVE

Monetary economics

Edited by
Steven N. Durlauf and
Lawrence E. Blume



Monetary Economics

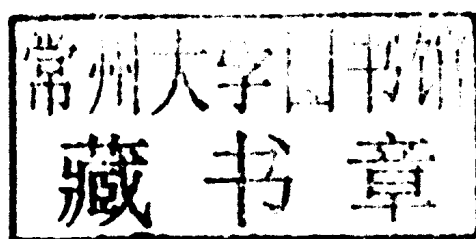
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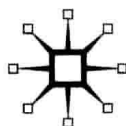
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General Preface

All economists of a certain age remember the “little green books”. Many own a few. These are the offspring of *The New Palgrave: A Dictionary of Economics*; collections of reprints from *The New Palgrave* that were meant to deliver at least a sense of the *Dictionary* into the hands of those for whom access to the entire four volume, four million word set was inconvenient or difficult. *The New Palgrave Dictionary of Economics, Second Edition* largely resolves the accessibility problem through its online presence. But while the online search facility provides convenient access to specific topics in the now eight volume, six million word *Dictionary of Economics*, no interface has yet been devised that makes browsing from a large online source a pleasurable activity for a rainy afternoon. To our delight, *The New Palgrave*’s publisher shares our view of the joys of dictionary-surfing, and we are thus pleased to present a new series, the “little blue books”, to make some part of the *Dictionary* accessible in the hand or lap for teachers, students, and those who want to browse. While the volumes in this series contain only articles that appeared in the 2008 print edition, readers can, of course, refer to the online *Dictionary* and its expanding list of entries.

The selections in these volumes were chosen with several desiderata in mind: to touch on important problems, to emphasize material that may be of more general interest to economics beginners and yet still touch on the analytical core of modern economics, and to balance important theoretical concerns with key empirical debates. The 1987 Eatwell, Milgate and Newman *The New Palgrave: A Dictionary of Economics* was chiefly concerned with economic theory, both the history of its evolution and its contemporary state. The second edition has taken a different approach. While much progress has been made across the board in the 21 years between the first and second editions, it is particularly the flowering of empirical economics which distinguishes the present interval from the 61 year interval between Henry Higgs’ *Palgrave’s Dictionary of Political Economy* and *The New Palgrave*. It is fair to say that, in the long run, doctrine evolves more slowly than the database of facts, and so some of the selections in these volumes will age more quickly than others. This problem will be solved in the online *Dictionary* through an ongoing process of revisions and updates. While no such solution is available for these volumes, we have tried to choose topics which will give these books utility for some time to come.

Steven N. Durlauf
Lawrence E. Blume

Introduction

Monetary economics is one of the most venerable fields of study in all of economics. As such, the entries in this collection span an enormous range of topics and include entries that originally appeared in the 1987 edition of *The New Palgrave*, notably 'money' by James Tobin, 'neutrality of money' by Don Patinkin, and 'quantity theory of money' by Milton Friedman. These entries are representative of a strategy pursued in the 2008 edition of preserving iconic entries whose content captured a vision of ideas circa 1987, with other entries capturing recent developments on the topic. Hence we also include entries on fiat and commodity money and a comparison of the quantity theory and real bills doctrine which embody contemporary perspectives.

The 2008 edition expanded the domain of coverage of monetary economics in two important directions. First, new approaches to monetary economics such as the increasing use of search-theoretic models to study money demand, is now part of the *Dictionary*. More importantly, the current edition gives much more extensive coverage to issues on monetary policy. Conceptual issues involving commitment and the time consistency of monetary policy are now included. Further, the renaissance of study of monetary policy rules, whether simple Taylor style rules or sophisticated monetary targeting practices, receives substantial attention.

In addition to theoretical articles, this collection contains much historical and institutional content. Entries appear on both the Bank of England and the Federal Reserve, which are the exemplars of monetary authorities. We have also included entries on hyperinflation and monetary forces in the Great Depression. These are reminders of how much damage bad monetary policy can produce, as well as laboratories for understanding how money affects the economy.

Steven N. Durlauf
Lawrence E. Blume

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Bank of England

The primary motivation for the establishment of the Bank of England was the need to raise funds to help the government finance the then current war against France, although the view had also developed that a bank could help to 'stabilize' financial activity in London given periodic fluctuations in the availability of currency and credit. An original proposal by William Paterson in 1693 for a government 'fund of perpetual interest' was turned down in favour of another proposal by Paterson in 1694 to establish a company known as the Governor and Company of the Bank of England, whose capital, once raised, would be lent in its entirety to the government.

An ordinary finance act, now known as the Bank of England Act (1694), stipulated that the Bank was to be established via stock subscriptions which were to be lent to the government. A governor, deputy governor and 24 directors were to be elected by stockholders (holding £500 or more of stock).

The evolution of the Bank's objectives and functions, 1694–1914

Under its original charter the Bank was allowed to issue bank notes, redeemable in silver coin, as well as to trade in bills and bullion. The notes of the Bank competed with other paper media of exchange, which comprised notes issued by the Exchequer and by private financial companies. In addition, customers could maintain deposit accounts with the Bank, which were transferable to other parties via notes drawn against deposit receipts (known as accomptable notes), thus providing an early form of cheque.

An early customer of the Bank was the Royal Bank of Scotland, which made arrangements to keep cash at the Bank from its outset in 1727. Loans were extended, predominantly in the form of discounting of bills, to individuals and companies, and the Bank undertook a large amount of lending (often via overdrafts) to the Dutch East India Company and, from 1711, to the South Sea Company. The Bank also acted as a mortgage lender, although this business never took off, and ceased some years later. Finally, an important function of the Bank was the remittance of cash to Flanders and elsewhere for the wars against Louis XIV, which was facilitated through correspondent arrangements with banks in Holland.

In 1697 the renewal of the Bank's charter for another ten years involved the passage of a second Bank Act, which increased the capital of the Bank and prohibited any other banks from being chartered in England and Wales. This monopoly was strengthened at the next renewal of the Bank's charter in 1708, when any association of six or more persons was forbidden to engage in banking activity, thereby precluding the establishment of any other joint stock banks. The Bank's position as banker to the government was consolidated in 1715 when it was decided that subscriptions for government debt issues would be paid to the Bank, and further that the Bank was to

manage the government debt (the Ways and Means Act). The Bank then acted as manager of the government's debts from that date until 1997.

The Bank also encouraged the use of its own notes in preference to other media of exchange by persuading the Treasury to increase the denomination of Exchequer bills. By 1725 the Bank's notes had become sufficiently widely used as to be pre-printed for the first time. Although a number of private banks had developed by 1750, both within and outside London, none competed seriously with the Bank in the issue of notes. By 1770 most London bankers had ceased to issue notes, using Bank of England notes (and cheques) to settle balances among themselves in what had become a well-developed clearing system. Furthermore, in 1775 Parliament raised the minimum denomination for any non-Bank of England notes to one pound and, two years later, to five pounds, effectively guaranteeing the use of Bank of England notes as the dominant form of currency. Problems relating to counterfeiting, and to the harsh treatment of those caught in the act, were, however, perennial.

In Scotland, by contrast, no note issuing monopoly existed, and banks were free to issue notes, although two banks dominated, namely, the Bank of Scotland and the Royal Bank of Scotland. Furthermore, several private note-issuing banks were in business in Ireland, and the Bank of Ireland was established in 1783. These banks relied on the Bank of England to obtain silver and gold, particularly during times of financial stress, such as 1783 and 1793.

Following a dramatic rise in government expenditures after 1793 due to the war against France, which caused a large rise in the Bank's note issue, the Bank's gold holdings fell sharply. After a scare about a French invasion convertibility was suspended in 1797, and resumed only in 1821. In view of the financial exigencies of the war, and the fact that there was in such circumstances no limit to the expansion of its note issue, now effectively legal tender, by the Bank, a privately owned company, what is in retrospect surprising about the period of suspension is how comparatively low the resulting inflation was. Even so, it was high enough to set off a major debate on its causation, for example in the Parliamentary Committee on the High Price of Bullion (1810). This period saw a further consolidation of the Bank as a note issuer, since it began to issue small denomination notes (given the shortage of silver and gold coin), which became legal tender in 1812. Furthermore, in 1816 silver coin ceased to be legal tender for small payments. The government also moved most of its accounts to the Bank in 1805 (in 1834 all government accounts were finally moved to the Bank).

During the 18th century and early part of the 19th century, smaller country banks had proliferated throughout England and Wales, many issuing their own notes. Given the prohibition on joint stock banking, the capital of these banks was usually small, and they regularly became insolvent, especially when the demand for cash (coin) became strong. This contrasted sharply with Scotland, where joint stock banking and branch banking were permitted, and relatively few failures occurred. Following a severe banking crisis in 1825, during which many English country banks failed, an Act renewing the Bank's charter (in 1826) abolished the restrictions on banking activity more than 65 miles outside of London. This led to the establishment of several joint

stock banks, while the Bank countered by opening several branches throughout England.

Thus, a semblance of a banking 'system' began to emerge by 1830, with the Bank of England as the 'central' bank. By far the best book on such nascent central banking at this time was that written by Henry Thornton, *An Enquiry into the Nature and Effects of the Paper Credit of Great Britain* (1802). The practice of banks placing surplus funds with bill brokers also developed, with the Bank beginning to extend secured loans to these brokers on a more or less regular basis. In 1833 joint stock banks were finally allowed to operate in London, although they were not permitted to issue notes and thus were essentially deposit-taking banks only. The same Act specified that Bank of England notes were legal tender, and the Bank was also given the freedom to raise its discount rate freely (until then usury laws had placed a ceiling on interest rates) in response to cash outflows. The Bank's reaction (an early reaction function), in varying its interest rate, to cash inflows and outflows became codified around this time in what became known as the Palmer rule, after Horsley Palmer, Governor 1830–33, though the rule itself is usually dated from 1827.

The position of Bank of England notes was consolidated in an important Act, passed in 1844, generally known as the Bank Charter Act, preventing all note issuers from expanding their note issue above existing levels, and prohibiting the establishment of any new note-issuing banks. The 1844 Act also separated the issue and banking functions of the Bank into different departments, and required the Bank to publish a weekly summary of accounts.

Given that it did not pay interest on its deposits, the deposit activity of the Bank could never really compete with that of other banks, which expanded rapidly from 1850 onwards. In 1854, joint stock banks in London joined the London Clearing House, and it was agreed that clearing by transfer of Bank of England notes would be abandoned in favour of cheques drawn on bank accounts held at the Bank. Ten years later the Bank of England itself entered this clearing arrangement, and cheques drawn on bankers' accounts at the Bank became considered as paid.

Although the Bank had, from the beginning of the 19th century, periodically bought or sold exchequer bills to influence the note circulation, explicit open-market borrowing operations to support its discount rate began in 1847. From 1873 until 1890 the Bank almost always acted as a borrower rather than a lender of funds, as there were typically cash surpluses. As a result, the Bank introduced the systematic issue of Treasury bills via a regular tender offer in 1877. Treasury bills had a much shorter maturity (three to twelve months) than Exchequer bills (five or more years), and were to play an important role in raising funds from the outset of the First World War onwards.

By 1890, the Bank's role as lender of last resort became undisputed when it orchestrated the rescue of Baring Brothers and Co., a bank whose solvency had become suspect, threatening to cause systemic problems. Earlier, in 1866, the failure of a discount house, Overend, Gurney and Co., had precipitated a financial panic, during which the Bank discounted large amounts of bills and extended considerable loans.

The Bank, however, was criticized for not doing more to prevent the onset of such a panic, not least by Walter Bagehot in his famous book *Lombard Street* (1873).

Throughout the 19th century, the Bank streamlined its discount facilities. In 1851 it overhauled its discount rules, stipulating that only those parties having a discount account could present bills, and that these bills had to have a maturity of fewer than 95 days and be endorsed by two creditworthy firms. In the latter part of the century, however, the Bank gradually came to favour discount houses, often by presenting them with better rates of discount, and the range of firms doing discount business with the Bank declined. Discount houses were favoured because there was tension then between the Bank and the rapidly growing commercial banks – there was much banking consolidation via mergers between the 1870s and 1914 – and dealing via the intermediation of the discount houses enabled the Bank to influence market rates without having to interact directly with the joint-stock banks as counterparties.

Until the First World War the Bank pursued a discount policy which was primarily aimed at maintaining its gold reserves (as noted earlier) and which was conducted largely independently of the government. During the First World War, however, a clash occurred between the Bank Governor (Cunliffe) and the Chancellor (Law), during which the government made clear that it bore the ultimate responsibility for monetary policy, and that the Bank was expected to act on its direction.

A subservient Bank, 1914–1992

The First World War was a major watershed not only in the history of the Bank but in the world more widely. It ushered in a half-century of increasing government intervention in every country, of a move towards socialist economies in most, and of communism in a wide swathe of countries. Under these circumstances the Bank became increasingly subservient to the government, in practice to the Chancellor of the Exchequer and to the Treasury, in the conduct of macro-monetary policy, its previous primary function.

Initially, however, there was little perception that the war and the rise of socialist ideas had irretrievably altered the context for policy. There was a desire to return to the previous regime, the gold standard, with its tried and true verities, as expressed in the Cunliffe Committee Report (the first report of the Committee on Currency and Foreign Exchange, 1919). That was probably inevitable under the circumstances, but a much more questionable decision was to return at the pre-war parity (against gold) despite the war-induced loss of markets (especially for the UK's main staples, textiles, coal, and iron and steel) and of competitiveness. Several of the other belligerent states, notably France, had inflated, and allowed their exchange to float downwards by so much that they did not seek to re-peg at the previous parity, but could choose a more suitable and competitive rate. While the decision to return to gold at the pre-war parity, steadfastly supported by the Bank, has been much criticized, the modern theory of time inconsistency provides some defence, namely, if the Bank had started to change the chosen rate to suit the immediate conjuncture it

would have been expected to do so again in future, making commitment to the regime less credible.

Be that as it may, conditions after the First World War, with a weak balance of payments and a massively inflated money stock and floating debt, were hardly conducive to the re-establishment of gold standard conditions. Indeed, the authorities initially felt forced to move in the other direction, to unpeg the sterling-dollar rate that had been established since 1916 and formally to leave the gold standard in March 1919. The ending of the war led then to an extremely sharp and short boom and bust, in which tight monetary policy played a major role in the subsequent deflation (see Howson, 1975). From then until the return to gold at the pre-war parity of \$4.86 to the pound in 1925, the Bank advocated keeping the Bank rate high enough to facilitate that regime change, but decisions on Bank rate and on the conduct of monetary policy were joint, in that no proposal by the Bank could be activated without the agreement of the Chancellor and HM Treasury; the Treasury view, however, then was in line with classical thought, namely, that monetary policy could and should impinge primarily on nominal prices, with real output affected by real factors.

Despite the boom in the USA, growth in the UK was perceived as remaining low and unemployment high, at least as compared with its main comparator countries, in the 1920s. This was in part due to the continuing problems of restoring a successful economic regime in Europe, wherein German reparations had a malign effect. Although the Bank had lost much of its power to direct domestic monetary policy (to Whitehall), the Bank and its Governor, Montagu Norman, played a leading role in the various international exercises to try to restore Europe to normality and to the gold standard, (Sayers, 1976, ch. 8); and Sir Otto Niemeyer, a top Bank official, spread the gospel of establishing central banks to maintain price stability to the Dominions.

This whole structure came apart in the crisis that started in the USA in 1929 and then engulfed the rest of the world progressively through the subsequent four years. How far that collapse was itself exacerbated by the attempt to restore the gold standard has been explored by Eichengreen (1992). The UK was not in a strong economic position to avoid the world recession, but suffered a much smaller decline in output than in the USA or much of Continental Europe. The struggle to maintain the gold standard had required the maintenance of high interest rates, despite the imposition of controls on new issues in sterling by foreign governments. Despite high unemployment, wages and prices remained too sticky to allow the restoration of international competitiveness, though quite why this was so remains a debated issue.

With the gold standard collapsing in Europe and social pressures rising in the UK, there was diminishing political will to take the measures that appeared necessary to maintain the gold standard. The government decided to abandon it (in Norman's absence) in September 1931. From that moment onwards, until May 1997, the decision to alter the Bank rate moved decisively to Whitehall, effectively into the hands of the Chancellor, advised by HM Treasury. Of course, the Bank could, and did, make suggestions and played a major role in all the discussions, but the Chancellor

took the decisions. Indeed, from June 1932 until November 1951 a policy of cheap money was followed whereby Bank rate was held constant at two per cent. Norman stated in 1937, 'I am an instrument of the Treasury'.

Meanwhile, the Bank was becoming more professional. The old system of circulating the Governor's chair in turn among the directors of the Bank, who were appointed from city (but not commercial bank) institutions, was superseded by the continuing governorship of Montagu Norman from 1920 until 1944. While this arose by happenstance rather than intention (see Sayers, 1976, ch. 22), it gave the Bank highly skilled, even if also highly idiosyncratic, leadership. Moreover, Norman introduced economists and other able officials into both the staff and the Court (the largely ceremonial board) of the Bank, although it is (apocryphally) recorded that Norman told one such economist, 'You are not here to tell me what to do, but to explain why I have done what I have already decided to do.'

In effect, the Bank had already become nationalized by the end of the Second World War. So the formal act of nationalization in 1946 brought about no real substantive changes, except that the Governor and his deputy (there has as yet been no woman Governor, although Rachel Lomax became the first female Deputy Governor in 2003), were appointed by the government for five years, renewable once more in most cases. Indeed, the more profound changes were brought about by Governor Gordon Richardson (1973–83) in the early 1980s. Until then, the Governor had been rather akin to a chairman, with the deputy and other internal directors as members of the board, setting strategy. Much of the executive power still lay with the Chief Cashier, who acted as leader of the heads of department, who ran the Bank. There was a clear break, a division, between the staff in the departments on the one hand and the Governors and Directors on the other. Richardson changed all that, concentrating power in the Governors' hands, sharply demoting the role of Chief Cashier, and underlining the precedence of (internal) directors over heads of department in all policy matters.

So, as power to decide the course of monetary policy – and to set the Bank rate – passed to Whitehall, what did these professional central bank officials do? The Bank came to have three main areas of responsibility. The first was the management of markets, notably the money market, the bond (gilts) market and the foreign exchange market. The UK had come out of the Second World War with a massively inflated ratio of debt to GDP, and its management had remained difficult and delicate, at least until after the War Loan Conversion of 1932. No sooner, however, had debt management been thereby put on a sounder foundation than the Second World War led to a further upsurge in the debt ratio, which led once again to debt management becoming a major preoccupation of policy. Thereafter, a combination of generally prudent fiscal policies, so that the debt ratio fell steadily, and then unexpected inflation in the 1970s, which accelerated the decline in the debt ratio, and market reforms in the 1980s, enabled the procedures of debt management to become simpler and standardized. Similarly, the floating exchange rate in the 1930s, followed by attempts to maintain pegged exchange rates both during the Second World War and

thereafter under the Bretton Woods system, against a background of perennially weak balance of payments conditions, made the management of the UK's foreign exchange reserves and intervention on the foreign exchange market a crucial function of the Bank until 1992, when the UK was forced out of the European exchange rate mechanism. During crises the officials in charge of such foreign exchange operations were in telephone communication with the Chancellor and, occasionally, the Prime Minister at frequent intervals.

The Bank held that such market operations required a special professional expertise (though HM Treasury remained sceptical). The Bank threw itself into such activities with enthusiasm, and defended its pre-eminent role in this respect stoutly against all outside encroachment or criticism. Indeed, its market 'savvy' was its most powerful lever to persuade the Chancellor to its views in any debate; 'I am sorry, Chancellor, but the market will not accept that policy' was the strongest card it had to play, and that card was played often and with alacrity.

Although ultra-cheap money, with Bank rate held at two per cent, was abandoned in 1951, when the Conservative Party was returned to office, monetary policy in general, and interest rates in particular, were still seen as both more ineffective and uncertain in their impact on domestic demand than the supposedly more reliable fiscal policy, a conclusion upheld by the controversial Radcliffe Report (1959). Consequently, fiscal policy was used to try to steer domestic demand while interest rates were raised to protect the balance of payments during the regular bouts of external weakness, and otherwise held low both to ease government finance and to support fixed investment. The outcome was a system in which inflationary pressures regularly threatened both the internal and external value of the currency. The chosen solution was to supplement market measures by direct interventions, in the case of external pressure via exchange controls, in the case of monetary expansion via direct controls on bank lending to the private sector. In both instances the Bank acted as the administrative agent of HM Treasury.

Such direct controls were introduced (on bank lending), or greatly extended and tightened (exchange controls), with the onset of the Second World War in 1939, but were continued, for the reasons outlined above, until 1971 for bank lending and 1979 for exchange controls. The administration of exchange controls required a large staff, but, unlike with its market operations, the Bank had little enthusiasm for acting in this guise. The Bank hoped to restore London to its former role as an international financial centre. While it succeeded in this through its encouragement of the Eurodollar market, aided by inept US policies, the continued administration of exchange controls remained an unwelcome burden. The same was true for direct controls on bank lending. Such controls were regarded by politicians as a comparatively painless way of dampening demand and inflation, while they were resented by commercial bankers. The Bank found itself in the middle of these disputes, and grew painfully aware of such controls' stultifying effect on efficiency, dynamism and growth. The Bank, inspired by John Fforde (the then executive director in charge of domestic finance, and subsequent Bank historian), pressed hard for these controls

to be dismantled, and succeeded with the liberalizing reform of Competition and Credit Control (Bank of England, 1971).

As with many other cases of banking liberalization, such as in Scandinavia at the end of the 1980s, this was followed by an expansionary boom and then a bust, the fringe (secondary) bank crisis of 1973/74 (Reid, 1982). While there remain questions about how monetary policy could have been better applied to prevent the prior monetary boom (1972/73), there was no question but that the financial crisis found both the Bank and the banks unskilled in risk management and unprepared for adverse shocks to financial stability. The long period of financial repression – that is, controls on bank lending to the private sector and force-feeding with government debt – had had the by-product of making the (core) commercial banking system safe between the mid-1930s and the early 1970s. The central banking function of maintaining financial stability, via regulation and supervision, had atrophied.

This had not been so earlier, and the Bank had been closely involved in the rescue of Williams Deacon's Bank by the Royal Bank of Scotland in 1930 (Sayers, 1976, ch. 10), and in helping to shape the structure of both the commercial banking system and the London Discount Market Association. Williams Deacon's had got into trouble largely because of bad debts from Lancashire cotton companies. Norman, and the Bank, extended their structural interventions beyond banking to try to encourage strategic amalgamations to shore up the positions of weakened companies in a variety of industries, such as cotton, steel, shipping, armaments (Sayers, 1976, ch. 14). The Bank's involvement in structural matters outside of banking itself was episodic depending on both circumstances and personalities. Another example of such Bank involvement was the considerable role it played in the reform of the UK capital market in the 1980s, more familiarly known as 'Big-Bang'. But views on whether the Bank has any locus in such wider structural issues vary over time; the early 2000s saw a major withdrawal by the Bank from any such involvement.

The fringe bank crisis in the early 1970s was, however, a clarion call to put more emphasis on its third main function, bank supervision and regulation. The immediate result was a reorganization in the Bank. Initially a nucleus of a new specialized department was established in the Discount Office where the limited staff assigned to this role had sat, which rapidly absorbed staff and resources. Thereafter this became a separate department devoted to banking supervision and regulation (its first head was George Blunden, later to become Deputy Governor, who handed it on to Peter Cooke in 1976). Its position was regularized in the Banking Act (1979) which gave formal powers to the Bank to authorize, monitor, supervise, control and, under certain circumstances, withdraw prior authorization (tantamount to closure) for banks. No such powers had been available before that date. Meanwhile, other financial intermediaries, such as building societies or insurance companies, remained (lightly) regulated by various government departments.

The fringe bank crisis was almost entirely domestic, confined to British headquartered companies. Meanwhile, however, the onwards march of liberalization (involving the removal of direct controls, notably exchange controls in 1979) and of