

The gilt-edged market since Big Bang

This article reviews the development of the gilt-edged market in the period of just over two years since its present structure was inaugurated at the time of Big Bang. It draws on the Bank's direct experience of the market, through its conduct of official operations and its prudential supervision of the main gilt-edged firms, and on a survey which the Bank conducted early in 1988 among investors active in the market. The first part of the article reviews the development of the main structural features of the gilt-edged market since Big Bang. It concludes that all the main elements appear to have functioned effectively and that the new structure has been successful in providing a continuous and liquid market for investors and for official operations. Competition among the market makers has been an important ingredient in this success, but at the same time has been a source of pressure on the market makers individually; these competitive pressures are examined in more detail in the second part of the article. More recently, the new structure has had to adapt as the public sector has moved into substantial surplus and the authorities in consequence have started buying gilts. The final section therefore considers the development of official operations in the market since Big Bang and, in particular, the ways in which the Bank has sought to minimise disturbance to the market arising from the change in the government's funding needs.

Development of the market's structure

The new structure⁽¹⁾ of the gilt-edged market was inaugurated at the time of Big Bang on 27 October 1986, though, as in the equity market, elements of the new arrangements had been introduced progressively in the preceding months. The essential change introduced in the new market was that, in place of the single-capacity structure of separate jobbers and brokers, the market-making function was undertaken by dual-capacity gilt-edged market makers (GEMMs) who deal directly with clients, thus integrating the trading and sales functions in a single operation.

This change in structure brought an influx of new firms into the gilt market: twenty-seven firms began operating as GEMMs at the time of Big Bang, many of whom had acquired existing firms of jobbers and/or brokers. With the increase in the number of market makers came a significant expansion in the capitalisation of the market and in the extent of international participation, particularly from US firms. To provide an anonymous dealing service between the GEMMs, six inter-dealer brokers (IDBs) began operations in gilts; and three new Stock Exchange money brokers (SEMBs) joined the existing six SEMBs in providing a stock-lending and financing service for the GEMMs.⁽²⁾ The new structure also brought important technological changes: the wholesale market moved off the floor and began trading over a telephone network with direct lines to major clients; market firms installed extensive computer systems in both front and back offices; and the Central Gilts Office

Service (CGO) was developed to provide computerised book-entry transfer facilities and assured payments arrangements for market participants.

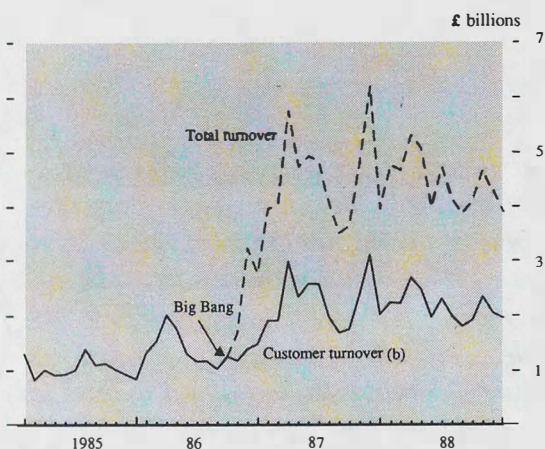
Over the two years or so since Big Bang, this new structure has bedded down along broadly the lines originally envisaged. It is thus now timely to try to assess how successfully it has developed over this period into a functioning market. The main features of the market can be reviewed in the context of five general objectives which the authorities have had in mind in seeking to shape the market's development, both at the time of Big Bang and subsequently: sufficient *liquidity* in a continuous secondary market to ensure that investors can readily buy and sell and that the government's funding aims can be achieved; *competition* among market firms, to maintain the efficiency of the market and as an important safeguard for investor protection; opportunity for *international firms* to be able to participate in the market; provision for *regulatory and prudential supervision* of market firms, including appropriate arrangements for their capital adequacy; and application of computer and information *technology* where this can improve the functioning of the market. The remainder of this section examines how far the development of the market since Big Bang has met these main objectives.

Perhaps the most widely held expectation at the time of Big Bang was that the new structure would enhance liquidity by engendering a significant increase in *turnover*. Turnover has indeed increased substantially (see Chart 1), average total turnover by value of transactions having

(1) The structure was described in detail in a paper published by The Stock Exchange in August 1984, 'The Market in Gilt-Edged Securities'; and in the 'Blue Paper' published by the Bank of England in April 1985, 'The future structure of the gilt-edged market' (reproduced in the June 1985 *Bulletin*, pages 250-82).

(2) The names of the GEMMs, SEMBs and IDBs are listed on page 58.

Chart 1
Average daily turnover: value

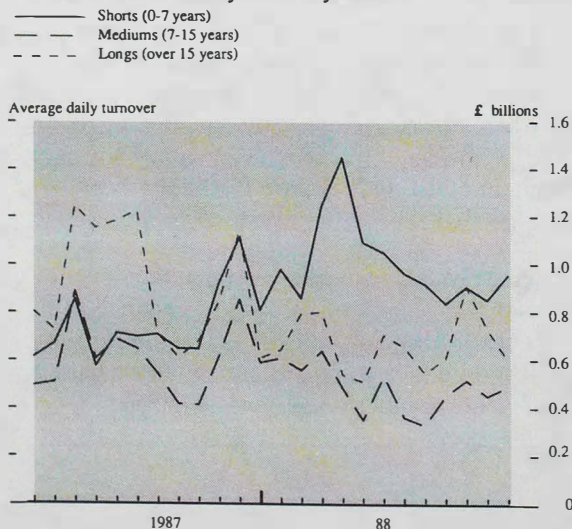


(a) Before October 1986 customer and total figures are identical.
(b) Before July 1987 customer figures are estimated.

risen from around £1½ billion a day before Big Bang to around £4½ billion a day currently. Around half of this, just over £2 billion a day, represents intra-market business between GEMMs dealing predominantly via IDBs, or directly with each other. But even in terms of outside-market business with customers, the increase of around 75%, from £1½ billion to something over £2 billion a day, is substantial. The pattern over time indicates that customer turnover built up to an initial peak of around £2½ billion a day in the run-up to the election in the summer of 1987 and then fell back in the remainder of that summer to around £1½ billion a day. Since then turnover has recovered somewhat, remaining generally in the range of £2–2½ billion a day since the fall in the equity market in October 1987. Within the rise in turnover there has been a marked increase in participation in the market by overseas investors.

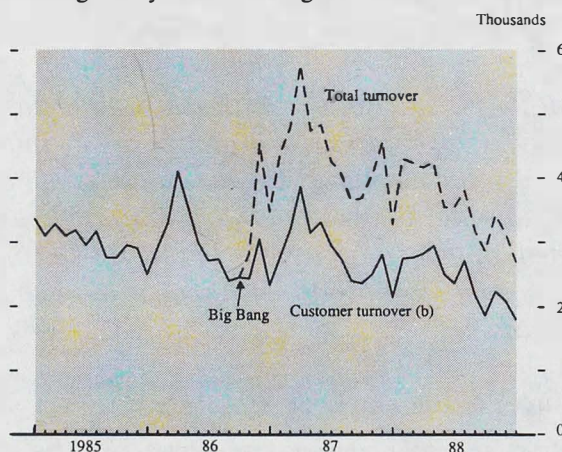
The variation in customer turnover since Big Bang has occurred mainly in long (over fifteen years) and short (up to seven years) stocks, with mediums contributing a fairly

Chart 2
Customer turnover by maturity band



steady £½ billion a day (25% of current turnover) on average (see Chart 2). In the first half of 1987, the increase in turnover was concentrated on long stocks, which accounted for over 40% of customer turnover during that period, compared with a third since July 1987. The recovery in turnover since October 1987 has been particularly evident in short stocks, especially in the first half of 1988. But turnover in medium and long stocks has been steady during 1988, with no evidence of a declining trend.

Chart 3
Average daily turnover: bargains^(a)

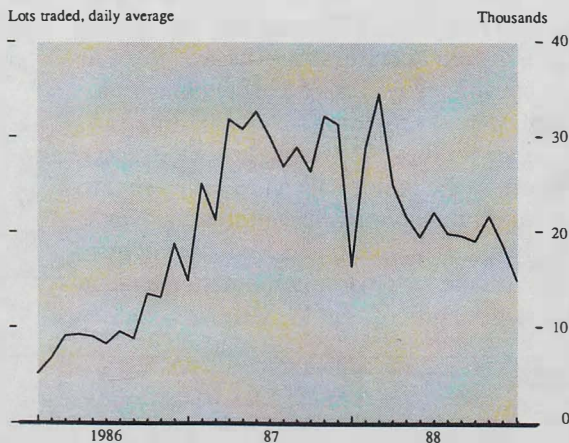


(a) Before October 1986 customer and total figures are identical.
(b) Before July 1987 customer figures are estimated.

Customer turnover by number of bargains, as distinct from value of transactions, has declined somewhat, continuing a trend evident before Big Bang, from around 2,500–3,000 bargains per day before Big Bang to 2,000–2,500 over the past year (see Chart 3). Given the increase in turnover by value noted above, the average size of customer deals has doubled from about £½ million before Big Bang to around £1 million in 1988.

Turnover in the long gilt futures contract operated by the London International Financial Futures Exchange (LIFFE) has been an important ingredient in the gilt market's

Chart 4
Turnover in long gilt futures contract



liquidity. Turnover has averaged 24,000 contracts a day, equivalent to a nominal amount of £1.2 billion. The pattern of turnover has been similar to that of gilts since Big Bang (see Chart 4).

A better indication of liquidity than simple turnover is provided by the width of *dealing spreads* and the *size of deal* that can be transacted at normal market quotes. On both tests the new market structure scores highly. Against typical spreads before Big Bang of 2–4 ticks (£ $\frac{3}{32}$ –£ $\frac{4}{32}$ per cent) for shorts and 4–8 ticks for longs, spreads have generally halved to 1–2 ticks typically in shorts and 2–4 ticks in longs, with some stocks trading at even narrower spreads. In index-linked stocks, the typical spread quoted is 6–8 ticks, as compared with 12–16 ticks before Big Bang. Despite this reduction in spreads, the normal size of deal for which quoted spreads are firm has generally increased, with GEMMs typically being firm either way at their quoted prices in £5 million in shorts, £2½–5 million in longs and £2½ million in index-linked; and significantly larger sizes can often be transacted at close to the quoted prices.

There has also been a marked reduction in *dealing costs* for investors. In the wholesale market, commissions have largely disappeared, with the major proportion of business now transacted directly by clients with GEMMs without commission. Moreover, as noted above, dealing spreads have typically halved. The reduction in costs for a typical wholesale deal of £1 million is illustrated in Table A: the reduction is of the order of 60%. In parallel, the *speed of execution* has become significantly faster, with clients now able to obtain firm dealing prices on demand from GEMMs by direct call, whereas prior to Big Bang brokers needed to communicate with jobbers on the floor to obtain a price for their clients.

Table A
Costs of dealing

	Before Big Bang		End-1988	
	Shorts	Mediums and longs	Shorts	Mediums and longs
Average commissions(a) for £1 million deal (per cent)	0.008	0.050	—	—
Typical spreads(b) (ticks)(c)	2–4	4–8	1–2	2–4
Cost of buying or selling £1 million of gilts (£)(d)	393–705	1,125–1,750	157–313	313–625
Reduction in cost since Big Bang (per cent)	—	—	60–56	72–64

Sources: ISE Quality of Markets First Report; Bank of England.

(a) Average commission paid in 1986 by wholesale investor.

(b) Difference between GEMMs' bid and offer prices in normal size (£1 million). 1 tick = £ $\frac{1}{32}$ per cent.

(c) The lower spread is typical for 'runners', i.e. the most actively traded stocks; the larger spread is typical for 'off-the-run' stocks.

(d) Calculated as commission for a bargain of £1 million plus half the spread.

All of this suggests that the new market structure has brought an improvement in the general quality of service provided for clients. The major contribution to this improvement has come from the expansion in the market-making core of the market—from the GEMMs

themselves. The progress which the GEMMs have been able to make in building up their business in a relatively short period of time reflects considerable credit on the management and staff of the firms involved, particularly when it is remembered that they have had to work in a largely unfamiliar and far from easy environment: they have had to develop dealing strategies for the new market, set up the appropriate structure of dealing staff and management controls (in many cases involving the amalgamation of existing businesses), implement new technology and establish new client relationships, all in the face of a relatively compressed preparatory period ahead of Big Bang and continuing competitive pressures since then. Against this background, given their central role, it is worth examining the experience of the GEMMs since Big Bang in more detail.

The expansion in the *number* of GEMMs at the time of Big Bang is well known: as compared with eight gilt-edged jobbers prior to Big Bang, two of whom accounted for around three quarters of turnover, twenty-seven firms began operating as GEMMs at the time of Big Bang. Seven have subsequently withdrawn and two have begun operating as GEMMs since Big Bang; there are thus twenty-two GEMMs at present.⁽¹⁾ That there should be withdrawals was not unexpected: the process has in all cases been orderly, without disturbance to the market.

The increase in the number of market makers has been matched by a significant increase in *capitalisation*. Prior to Big Bang, the capital of the gilt-edged jobbers is believed to have amounted to around £100 million. At the time of Big Bang the capital of the twenty-seven GEMMs amounted to £595 million (see Table B). Since then GEMMs have injected additional capital, net of capital withdrawn, of £85 million; and capital withdrawn by firms ceasing to be GEMMs, net of capital brought in by new GEMMs, has amounted to £70 million. The net effect of these adjustments would have increased total capitalisation to £610 million, but operating losses since Big Bang of around £190 million have reduced the total to the current level of £420 million.

Table B
Capitalisation of gilt-edged market makers

£ millions	
GEMMs' capital as at 27 October 1986(a)	595
Changes as companies joined or withdrew(b)	– 70
Net injections or withdrawals of capital	+ 85
Operating losses(c)	–190
GEMMs' capital as at end-1988(a)(b)	420

Source: Bank of England.

(a) Capital base, as set out in the *Blue Paper*; see footnote (1) on page 49.

(b) Hoare Govett withdrew from the market on 4 January 1989, but its withdrawal is included in this table (which otherwise records changes up to 30 December 1988).

(c) Net profits/losses after overheads.

The *market-making obligation* undertaken by the GEMMs is to make a market in the full list of gilt-edged stocks across the maturity range, including index-linked stocks. The Bank has monitored this obligation

(1) The names of firms joining and withdrawing from the gilt-edged market are listed on page 58.

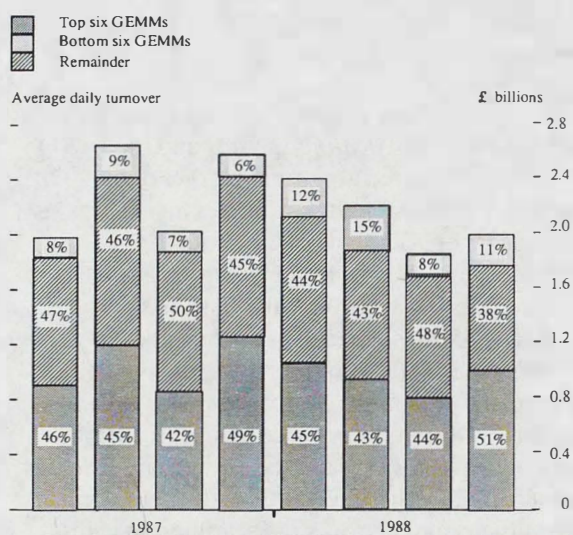
continuously since Big Bang and has been satisfied that the requirements have generally been met.

In this monitoring role, the Bank examines each individual firm's business in detail, drawing *inter alia* on the detailed daily data which each GEMM reports to it, to ensure that an adequate service is being provided across the full maturity range of stocks (including index-linked) and across a range of investing clients. But in addition the Bank has also sought feedback from investors about the quality of service they are receiving from GEMMs (as a group and individually); and supplements this feedback by drawing on its own experience of the performance of individual firms, derived from its dealing and supervisory relationships with the GEMMs.

The evidence derived from these sources suggests that in conventional stocks investors have encountered few problems in obtaining a full market-making service; where individual GEMMs have on occasion encountered difficulties, the problems have been reviewed with the Bank and steps have been taken to improve the firm's market-making. In index-linked stocks, somewhat more generalised difficulties in providing a continuous service were encountered by a number of GEMMs as the level of market activity became more subdued in the summer of 1987; the difficulties were compounded by the greater volatility of index-linked stock and by the fact that the range of investors is narrower in that area of the market. Accordingly, the Bank undertook a round of consultations with GEMMs and with investors to review market-making in index-linked stocks, from which it concluded that it would be appropriate to continue to look for all GEMMs to remain committed market-makers in index-linked stocks, rather than to allow some GEMMs to concentrate solely on conventional stocks. The Bank continues to monitor market-making in the index-linked sector particularly closely in order to ensure an adequate service for investors and, in order to enhance liquidity, is itself prepared to purchase index-linked stocks from the GEMMs on request at prices a little below the market bid price. Over the past year the emergence of renewed investment interest in the index-linked area appears to have helped to improve liquidity.

The picture of a generally satisfactory market-making service provided by the GEMMs is borne out by an analysis of the degree of *concentration* of market shares among GEMMs handling wholesale business (measured as share of outside turnover with clients and agency brokers). The pattern that has emerged since Big Bang is illustrated in Chart 5. Broadly speaking, at any given time it has been possible to identify three groupings: half-a-dozen firms with relatively substantial market shares of 5% and upwards each, accounting for around 45% of outside turnover; another half-a-dozen firms with relatively small market shares in the range of 1%–2½% each (none with less than 1%), accounting for around 10% of outside turnover; and the remainder in between, with

Chart 5
Distribution of GEMMs' retail turnover



market shares in the range of 2½%–5% each, accounting for the remaining 45% of turnover. The groupings have not always comprised the same firms: there has been movement between them. But the degree of concentration has remained relatively low and it is striking that it has shown little sign of increasing since Big Bang: there has been little tendency so far for the larger firms to become progressively more dominant.

Besides the wholesale market-making function, the new structure has also provided an efficient service for *small deals*. Five GEMMs provide a regular market-making function in small business. One⁽¹⁾ has operated as a specialist in small deals, continuing its pre-Big Bang jobbing specialisation in that type of business; the other four⁽²⁾ have provided a small deals service as an adjunct to their wholesale market-making activity. Two of these five firms provide a regional service—one in Glasgow and one in Liverpool—and one of the London firms continues to operate on the floor of the Exchange, although in all cases the major part of the business is now conducted by telephone. The continuation of this market-making service in small deals is a welcome feature in the new structure, since it helps to maintain a broadly-based interest in gilt-edged stocks among the investing public.

Both in relation to small deals and for a proportion of larger institutional business, *agency brokers* have continued to provide an advice and execution service for clients in much the same way as before Big Bang, acting as single-capacity agents and receiving commission for their service. Agency brokers have consistently accounted for some 10% of customer market turnover since Big Bang. That there should continue in the new structure to be demand on this scale for their services was not widely expected, but is not altogether surprising. They are able to offer impartial market advice and assistance in seeking best prices and to execute business without disclosure of

(1) Aitken Campbell, operating in Glasgow.

(2) Baring Wilson and Watford; James Capel Gilts; NatWest Gilts; and Phillips & Drew Mouldsdale.

their client's identity to their dealing counterparty. In the initial period after Big Bang a measure of competitive tension sometimes made it difficult for agency brokers and GEMMs to establish harmonious dealing relationships with each other, but as their respective roles have become more clearly established the agency brokers have proved to be a useful source of additional business for the market makers.

A further important support for the market-making function has come from the ancillary services provided by the Stock Exchange money brokers and the inter-dealer brokers. The stock lending and financing facilities provided by the *Stock Exchange money brokers* (SEMBs) have operated in broadly the same manner as before Big Bang; the number of SEMBs increased at the time of Big Bang from six to nine and a tenth firm joined the list subsequently. Some concern was expressed at the time of Big Bang whether there would be sufficient stock available for lending to meet the needs of the expanded population of GEMMs; and there was also concern whether the SEMBs would be able to adapt their own operations to the more active conditions envisaged in the new structure. In the event, neither concern has proved a problem. The SEMBs have been active in expanding their lists of stock lenders: the amount of stock identified as available for lending (the actual total will be larger) increased by around £7 billion in the six months running up to Big Bang and has expanded by a further £14 billion since then, to a total at present of around £42 billion, ie roughly one third of the total stock of gilts outstanding. Equally, the SEMBs appear to have been successful in adapting their own operations to the needs of the GEMMs: and, besides meeting the stock borrowing needs of the GEMMs, the SEMBs have often had available money generated from their equity lending operations which they have been able to lend to the GEMMs at rates very competitive with those available in the money markets. As the market has developed, stock borrowing charges have come increasingly to be negotiated on an individual basis with each GEMM, with evidence more recently of a reduction in the overall level of charges made to GEMMs.

A more technical concern, but one nonetheless of some importance in structural terms, was that the stock lending mechanism prior to Big Bang involved lenders and borrowers in a period of 'daylight' exposure to the SEMBs, secured only against cheques; where stock lending transactions are secured against collateral in the form of gilts, the inauguration of assured payments arrangements in the CGO at the time of Big Bang removed this exposure.

The service provided by the *inter-dealer brokers* (IDBs) is a new feature of the market. Six firms began operating as IDBs at the time of Big Bang; two have subsequently withdrawn. Although the technology of inter-dealer broking in government bonds was available to many of the IDBs from the US market, it needed adaptation for

the distinctive features of the gilt-edged market, and it is a considerable technical achievement that the IDBs have been able to provide a largely trouble-free service: the depth of business conducted over IDB screens inevitably varies with market conditions, but the contribution the service has made to the liquidity of the market is undoubted.

The GEMMs, SEMBs and IDBs are all members of the *International Stock Exchange* (ISE) and *The Securities Association*, and the operational and regulatory services provided by those bodies have been an important element in the market's infrastructure. On the operational side, the ISE provides checking and trade reporting facilities. In the regulatory field, the work of the ISE's Gilt-Edged Market Committee, in which all the main types of market participants are represented, has provided an excellent example of the value of practitioner input in updating the rules and regulations of the market and in developing codes of dealing and conduct. This work has benefited considerably from input from the three associations which bring together the interests of the three main groups of gilt-edged firms—the Gilt-Edged Market Makers Association, the Stock Exchange Money Brokers Committee and the Inter-Dealer Brokers Association.

The ISE and the Bank, in a joint venture, have also developed the *Central Gilts Office Service*, which provides computerised book entry transfer facilities and assured payments arrangements.⁽¹⁾ These facilities, which are operated as an office of the Bank, represent a major technical advance in the market's infrastructure, both in reducing back office paperwork through the book-entry facilities and, through the assured payments arrangements, in diminishing exposure to daylight settlement risk. After an initial period following Big Bang in which the service was confined to the main market firms, in order to allow it to bed down, participation was opened to all comers in a two-tier structure: direct membership, for members wishing to open accounts in their own name in the CGO, or indirect participation, for investors who wish to hold stock on the nominee account of a direct CGO member without themselves joining the service. The system has operated with a high degree of reliability and the ready acceptance it has won from the market is borne out by the expansion of stock held in the system, which has grown from 20% of the total of gilt-edged stock outstanding at the time of Big Bang to 38% currently. The widespread use being made of the system has recently enabled charges for the forthcoming year to be reduced significantly.

In parallel, the Bank developed in preparation for Big Bang a computerised *supervisory reporting* system for its prudential supervision of GEMMs, SEMBs and IDBs. GEMMs report their positions stock by stock at the close of each day by electronic transmission to the Bank, where they are analysed to produce a full assessment of the position risk exposure of each firm by 8.00 am the next

(1) The services operated by the CGO are described in detail in articles in the March 1986 *Bulletin*, pages 56-7; the February 1987 *Bulletin*, pages 80-82; and the November 1988 *Bulletin*, pages 550-51.

morning. This system has been an essential input to the Bank's supervision of the market. It remains, however, only an input: the Bank continues to base its supervision on a wider knowledge of the business and management of each firm, derived not only from the computerised reports but also from continuing informal contacts with the individual firms and from regular supervisory interviews with them.

A final feature of the new structure which deserves notice is the important role played by *derivative products*—notably the gilt-edged futures contracts operated by LIFFE. Although activity in the short and medium contracts has so far remained subdued, the long gilt contract has contributed substantially to the market's liquidity, by enabling participants to manage their position risk. LIFFE's market in options on the long gilt contract has served a similar purpose. The ISE has also developed a framework for negotiated options on individual gilt-edged stocks and some GEMMs have marketed gilt warrants. Subject to appropriate regulatory arrangements, which have been put in place as necessary, derivative instruments seem likely to contribute increasingly to the effective functioning of the main market.

The generally favourable conclusions that emerge from the above review are consistent with the results of a *survey among major investors* which the Bank conducted in the early months of 1988, in order to seek investors' views on the quality of service they were receiving in the new market structure. Responses were obtained from some seventy institutions, mostly comprising the main domestic investors, but including some overseas participants. The responses indicated that many investors, having initially had dealings with a fairly wide range of GEMMs in the early days after Big Bang, subsequently tended to concentrate their business on perhaps six to ten firms which they judged to provide the best service: however, the selection of firms varied widely from investor to investor and covered the full population of GEMMs. The responses generally indicated a high degree of satisfaction with the service provided by the GEMMs, in terms of the range of stocks in which GEMMs were ready to deal, the spreads quoted, the size of deal, and the hours of the day in which firm prices were available. There was also general agreement that competitive prices continued to be available in more difficult market conditions—in both active and quiet periods and when the market was reacting to unexpected news. The main area of concern was in relation to index-linked stocks, where it was felt that not all GEMMs were providing a fully adequate service. The Bank's response to this feature of the survey has been described above. The Bank continues to value feedback from investors and intends to supplement its informal contacts with them by undertaking further surveys from time to time.

The evidence reviewed above suggests that the new market structure has achieved a considerable measure of

success in meeting the objectives identified at the outset—a high degree of continuous liquidity, with vigorous continuing competition among market firms, drawn from both domestic and international financial groups, operating within an established framework of regulatory and prudential supervision and making widespread use of computer and information technology. But competition, which has contributed much to the successful functioning of the market as a whole, has also been a source of pressure on the GEMMs individually. The next section therefore examines in more detail the way in which competitive pressures have developed so far.

Competitive pressures

The view was widely expressed at the time of Big Bang that twenty-seven GEMMs was probably a larger number than the market could sustain over any prolonged period; the Bank itself indicated ahead of Big Bang that the market shares which GEMMs were aiming individually to try to achieve aggregated in total to around 175%. The Bank nonetheless took the view that it would not be appropriate for it to seek to limit the number of GEMMs arbitrarily, provided it was satisfied that applicants had adequate capacity to perform the market-making function. Since Big Bang, competitive pressures have proved to be at least as great as foreseen at the outset. This has resulted in a contraction in the size of the market-making core: as described above, the capitalisation of the GEMMs as a whole has contracted, principally as a result of operating losses since Big Bang, and some GEMMs have withdrawn. It is worth considering in more detail whether this contraction represents an initial adjustment phase following Big Bang, as the market settles to a level of capitalisation and a number of participants which might be expected in due course to stabilise, or whether it is likely to be a continuing process, with possible implications for the long-run structure of the market.

It is useful in this context to look at how the impact of competitive pressures on the financial performance of the GEMMs has developed over time since Big Bang. In the initial six months after Big Bang through to the spring of 1987 most GEMMs enjoyed a relatively successful financial performance, helped by the initial surge in turnover and by generally buoyant market conditions. In the summer of 1987, however, GEMMs encountered a period of relatively substantial losses: many firms suffered from the generally weaker market conditions and were relatively slow to cut positions; and though some firms were able to recoup their losses in the rally in the fixed-interest markets in October 1987 at the time of the worldwide fall in equity markets, others responded less promptly and continued to encounter losses.

The disappointing experience in the summer of 1987 caused many GEMMs to review the way they operated in the market. It initiated a process of progressively tightening financial controls: steps were taken to cut back overheads, reduce staffing levels and control

position-taking more closely. The results were evident in a noticeable improvement in financial performance between October 1987 and the spring of 1988: although the GEMMs continued generally to operate at slightly below break-even level, their losses overall were significantly reduced.

The improvement, however, was not maintained in the remainder of 1988. The adjustments in short-term interest rates during the course of 1988 and the emergence of a steepening reverse yield curve created a difficult operating environment for the GEMMs. To these difficulties has been added in the last year the changed government funding requirement—the absence of new issues, with the authorities ready on appropriate occasions to undertake outright purchases of stock, supplemented by a reverse auction early in 1989 to buy in £500 million of two very short dated stocks. In this unfamiliar environment the GEMMs as a whole have encountered somewhat greater losses since the spring of 1988.

There have thus been two periods in which the GEMMs have incurred the bulk of their losses—the summer of 1987 and the last three quarters of 1988. But the experience of these two periods is not identical. There are differences in the financial performance of the GEMMs in 1988, as compared with the previous year, which may contain pointers for the future.

One difference is that in responding to the difficulties they encountered, GEMMs in 1988 demonstrated greater ability to contain losses than in the previous year. Losses of the GEMMs as a whole in the difficult summer months of 1987 were running at around £4 million a week; when they encountered similar difficulties in the last three quarters of 1988, losses were curtailed to under £2 million a week, less than half the level of the previous year. This is perhaps evidence of the progress GEMMs have made since Big Bang up the 'learning curve' in improving their control of their trading operations.

Further evidence of improvement in this direction is provided by a marked narrowing in the disparity in performance between individual firms over the past year. In 1987, a number of GEMMs suffered losses from strategic or trading misjudgments, in many cases reflecting the learning process of gaining familiarity with a trading function. In 1988, by contrast, individual instances of losses have generally been more modest, reflecting a more closely-managed approach to control of positions. This more uniform pattern of financial performance constitutes in one sense an intensification of competition, but it indicates that in many cases the GEMMs have been able to make progress in stabilising their business. Nor have losses been the universal experience. In the last quarter of 1988, despite continuing difficult market conditions, around a third of GEMMs were able to achieve positive returns (net profits after overheads); a further third were able to contain net losses over the quarter to £1 million or less each, with the remainder incurring somewhat larger losses.

A further difference between the two years has been somewhat clearer evidence in the experience of 1988 that the market-making commitment can help to improve a firm's financial performance. By seeking to provide a consistent market-making service to clients, many GEMMs have been able to broaden the range of their client relationships; and the better picture this gives them of market trends has in turn improved their ability to manage their own risk exposure. This is reflected in a general tendency over the past year for larger market share to be more closely correlated with better *trading* profits, in contrast with the picture in 1987 when there was little correlation. Thus far, however, maintaining a larger market share has inevitably entailed higher costs in terms of overheads, and the effect of these higher costs has been that the same degree of correlation is not evident if market share is matched against *net* profits after overheads. This may be one reason why the degree of concentration, as noted above, has not increased since Big Bang.

In considering the impact of competitive pressures on financial performance, two other ways in which GEMMs have sought to develop their business are worth noting. First, a number of GEMMs have been able to identify ways in which their activities as a GEMM can assist business elsewhere in their group, even though the benefits may not be reflected in the financial performance of the GEMM itself. Examples are the ability to pursue lead management mandates for new issues in sterling debt instruments other than gilts, eg corporate bonds or eurosterling; the scope for developing trading activity in the secondary market in these instruments; and the ability to initiate interest rate and currency swaps and to write options.

Second, many GEMMs have been considering how they can diversify their activities in order to capitalise on their market-making expertise in gilts. The change in recent months in the government's funding requirement in the gilt market has been a further stimulus in this direction. One opportunity which has attracted increasing interest has been the scope for developing a similar market-making function in non-gilt fixed-interest sterling securities, where new issue activity has been expanding significantly as the government's borrowing needs have receded (see the note on page 34). There has been a substantial increase in the flow of capital market issues, particularly from the corporate sector, and in the range of companies tapping the market with medium and long-dated debt issues; greater market-making activity in this area should help to foster the market's growth by enhancing liquidity. An alternative approach being pursued by some GEMMs is to seek to widen their client base in gilts, particularly by integrating gilt sales into their group's general sales network. Others have devoted efforts to developing derivative products based on gilts and tailored to the specific needs of individual clients.

A number of GEMMs have also sought to integrate more closely their gilt-edged activities and their money-market

operations. Some have expressed an interest in establishing a dealing relationship with the Bank in money-market instruments to parallel their dealing relationship in gilts. To facilitate this process, the Bank has set in place arrangements⁽¹⁾ by which it will consider accepting GEMMs as dealing counterparties both in gilts and in money-market instruments, so that both functions can be integrated in a single market-making entity without formal separation of capital. The Bank has recently announced that it will establish two new money market dealing relationships, one with a GEMM and one with a separately capitalised discount house.

Closer examination of the competitive pressures facing GEMMs since Big Bang thus indicates that they have indeed been considerable and have impacted on GEMMs' financial performance. Nor is there yet any evidence to suggest that the pressures are abating; after some success in cutting back on losses in the winter of 1987/88, GEMMs have encountered increased pressure on their financial performance since the spring of 1988. But the analysis above does also reveal some more encouraging pointers for the future: over the past year many GEMMs have undoubtedly become more adept at containing their losses when they encounter adverse conditions; the disparity in performance between individual GEMMs has become narrower; and there is now clearer evidence of positive correlation between market share and trading profit. It is too soon to conclude that either the structure of the market or the number of market makers has yet stabilised, but perceptible progress does appear to be being made towards a more stable state, and in the process, on the evidence cited in the first section of this article, the positive benefits of the new structure for users of the market do not appear to have been compromised. The recent change in the government's funding requirement has, however, introduced an additional need for adjustment on the part of the GEMMs. The final section of this article therefore examines in more detail how the authorities have sought to minimise disturbance to the market from this process.

Official operations

The way in which the Bank proposed to conduct official operations in the new market structure was set out in detail in a paper⁽²⁾ issued by the Bank ahead of Big Bang. Official operations have closely followed the lines set out in that note.

In the *primary* market, the Bank continued to bring periodic new issues so long as the government's funding need required gilt sales, using both the offer for sale by tender and the technique of placing tranches of existing stocks in the Bank's portfolio. As foreshadowed in the Bank's note, the opportunity has also been taken to conduct a series of auctions: arrangements for these were

described in a notice⁽³⁾ issued by the Bank and the experience was reviewed in detail in an article in the *Bulletin*.⁽⁴⁾

In the *secondary* market it proved possible to adapt the Bank's approach to dealing relatively smoothly to the new market structure, and dealing relationships with the GEMMs have been established along very much the lines indicated in the Bank's paper issued before Big Bang. Until recently, the Bank's operations in the secondary market predominantly took the form of sales of stock. But since the spring of last year the government's need for funding has progressively receded and the Bank has had the opportunity to deal on a more two-way basis.

Throughout this period the aim of funding policy has remained unchanged. The authorities seek to fund the net total of maturing debt, the PSBR/PSDR, and any underlying change in foreign exchange reserves, by sales of debt outside the banking and building society sectors. In pursuing this aim, it has remained a fundamental long-term objective of the Bank's approach to gilt-edged market management to encourage the development of a broad and liquid market. In adapting its operations to the reduced funding requirement, the Bank has had particular regard to this long-term objective and has sought to reflect it in its approach to day-to-day market management.

Thus, just as the Bank has in the past been ready to sell stock in response to bids from GEMMs in rising market conditions, so at times of relative market weakness the Bank has been willing in recent months to buy stock in response to offers from GEMMs, and has been able to operate more frequently in this direction as the scale of the PSDR has become more firmly established. But it remains the Bank's approach that it will generally look to respond to bids or offers from the GEMMs, rather than enter the market on its own initiative; and it will move its prices in line with the market. In addition to such outright operations, the Bank has in recent months been able to respond more frequently to proposals for switches between stocks. In all these operations, the Bank aims to ensure that it does not operate at a loss; this may be a relevant consideration, for example, in the terms for which the Bank will look in considering switch proposals.

To supplement its purchases of stock in the secondary market, the Bank recently held a reverse auction in which it purchased £500 million of two very short dated stocks. The auction was well supported, being covered some $3\frac{1}{4}$ times, with the prices paid by the Bank spanning only one tick ($\frac{1}{32}$ per cent). The result suggests that this technique could be a useful adjunct to the Bank's secondary market operations on occasions in the future.

Experience since Big Bang has thus provided encouraging evidence of the capacity of the new market structure to

(1) Set out in 'Bank of England operations in the sterling money market', issued by the Bank in October 1988.

(2) 'The future structure of the gilt-edged market: official operations', reproduced in the December 1986 *Bulletin*, pages 569-74.

(3) 'The gilt-edged market: auctions', reproduced in the May 1987 *Bulletin*, page 203.

(4) 'The experimental series of gilt-edged auctions', in the May 1988 *Bulletin*, pages 194-7.

accommodate official operations. The new structure has also enabled the authorities to extend the range of their funding techniques, eg through the use of auctions; and the market has shown an ability to adapt to changes in the funding environment. On this score too, therefore, the

new structure can be regarded as having met the objectives identified at the time of Big Bang; but the way in which official funding activity develops in the future can be expected, as hitherto, to be an important influence on the structural development of the market.

Gilt-edged market makers, Stock Exchange money brokers and inter-dealer brokers

As at 20 January 1989

Withdrawn since Big Bang

Gilt-edged market makers

Aitken Campbell (Gilts) Limited
 Barclays de Zoete Wedd Gilts Limited
 Baring Wilson & Watford
 BT Gilts Limited
 Cater Allen Securities Limited
 Chase Manhattan Gilts Limited
 CL-Alexanders Laing & Cruickshank Gilts Limited
 CSFB (Gilts) Limited
 Daiwa Europe (Gilts) Limited(a)
 Gerrard & National Securities Limited
 Goldman Sachs Government Securities (U.K.) Limited
 Greenwell Montagu Gilt-Edged
 James Capel Gilts Limited
 Kleinwort Benson Gilts Limited
 Merrill Lynch Government Securities Company
 J P Morgan Sterling Securities Ltd
 NatWest Gilts Limited
 Nomura Gilts Limited(a)
 Phillips & Drew Mouldsdale Limited
 Salomon Brothers UK Limited
 Shearson Lehman Hutton Gilts Limited
 S G Warburg, Akroyd, Rowe & Pitman, Mullens
 (Gilt-Edged) Ltd

Citicorp Scrimgeour Vickers Securities Limited
 Hill Samuel Wood Mackenzie (Sterling Debt) Limited
 Hoare Govett Sterling Bonds Limited
 Lloyds Merchant Bank (Government Bonds) Limited
 Morgan Grenfell Government Securities Limited
 Prudential-Bache Capital Funding (Gilts) Limited
 RBC Gilts Limited

Stock Exchange money brokers

Cazenove Money Brokers
 Hoare Govett (Moneybroking) Limited
 James Capel Moneybroking Limited
 King & Shaxson Money Brokers Limited
 Lazard Money Broking Limited
 LM (Moneybrokers) Limited
 Prudential-Bache Capital Funding (Money Brokers) Ltd
 Rowe & Pitman Money Broking Ltd
 Sheppards Moneybrokers Limited
 SLH Gilts Money Brokers Ltd(a)

Inter-dealer brokers

Charles Fulton (IDB) Limited
 Fundamental Brokers Gilts Ltd
 Garban Gilts Limited
 Williams, Cooke, Lott and Kissack Limited

Mabon, Nugent Gilts
 Tullett & Tokyo (Gilts) Limited

(a) Joined since Big Bang.