

The function of the central bank

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Abstract: The general view of the media, bankers, business and politicians, not noticeably contradicted by academics, is that one of the main functions, or *the* main function, of the central bank is to analyse the progress of the economy, and then to steer it with skilful judgement towards health and growth, by making decisions to change their base interest rate, with carefully chosen timing, amount and direction. The data presented here show that it is impossible to sustain this notion of skilful time-critical steering, or even that the central bank does in fact lead or determine the short term interest rates available to savers or business. The contrary proposition, that commercial short-term interest rates are in fact observed and followed by the central bank, is perhaps not mathematically provable, but seems generally to be in accordance with the observed facts.

Introduction

Money is mysterious (Buchan, 1997), and banks are part of this mystery, including central banks. Text books list the functions of the modern central bank, the issuing of notes and coins, the lending of last resort, the overseeing of the commercial banks and financial institutions, the regulating of exchange rates and interest rates. The text books are written by academics, banking outsiders, making a plausible story out of a mystery. The bankers have no plausible story of their own. They know what to do this afternoon and tomorrow, but if asked why, their answer would consist partly of details making little coherent sense to the outsider, partly of rhetoric borrowed from the academics. The outsider's view of the functions of the central bank vary from time to time, but there is no doubt which function is overwhelmingly dominant in public perceptions today. By public perceptions is meant not only the view of the man in the street, but the story which lies behind all public commentary on the central bank, of politicians, journalists, academics, and of the central bankers themselves. This publicly perceived dominant function is the announcement of the central bank's interest rate - the base rate, the repo rate, the Federal Funds rate, as the case may be.

It would be difficult to exaggerate the weight given, by authorities and commentators alike, to this function. Paul Volcker himself states (Deane and Pringle, 1994) that "there can be no mistaking the key role that central banks play in a modern economy. That role is frequently related entirely, or almost so, to the importance of monetary policy – the decisions about the appropriate supply of money and credit or the direction and level of interest rates". Numberless newspaper and journal articles have discussed the god-like mastery of Alan Greenspan, Volcker's successor, in guiding the US economy, and how he has been indispensable in this function under four successive presidential administrations. The indicators affecting the timing of the next change of interest rate are endlessly analysed. It is always pointed out that such a change will take two or more years to work through, while in another part of the text it is implied that somehow it is a matter of great skill to decide whether the change should be made this week or next.

This adulatory treatment is extraordinarily uniform. People may differ in their appraisal of the central banker's performance in steering the economy, but as regards the essential link between the performance and the economy, there are no publicly dissenting voices.

To illustrate this, some totally unexceptional remarks are quoted below from a leading article in the Financial Times of London (Dec 2001).

"Looking back, the Fed deserves more criticism and the ECB [European Central Bank] more praise. This is more than an academic, retrospective point. Appreciating where the world's two leading central banks went wrong and right in the past few years also provides an important guide to the future."

Clearly the writer believes that he can make a judgement on past performance, and that this judgement is of importance.

"For the Fed, Alan Greenspan, its chairman, should come clean ... where they were at fault ... was in allowing the boom to take on the dimensions it reached at the tail end of the 1990s."

Alan Greenspan is here being presented as being in total charge of the timing and rate of the "boom", i.e., of the entire progress of national output. The writer goes on to detail Greenspan's "four serious mistakes", all to do with his timing of interest rate changes.

"The ECB has been consistently slow to react ... what matters ... is the quality and speed of its decisions." However, "Mr Duisenberg, in his plodding way, has presided over a gradual accretion of competence for the ECB. ... The reputation of both [the Fed and the ECB] depends on how skilfully they steer the world back to stability and growth in 2002."

Again the unquestioning premise that if "the world" reverts to stability and growth, it will be due to the skilful and speedy "steering" of the Fed and the ECB.

We are so accustomed to reading the sort of material I have put in quotation marks above that we generally read it without subjecting it to normal scrutiny. Clearly, the words, taken literally, are palpable nonsense. We all know that the enormously complex technological and social factors which govern output growth are incapable of being described in terms of a simple cause and effect machine, that our understanding of them is so poor that the forecasts of academics and central bankers alike are hardly worth the paper they are written on. It can confidently be asserted that the writer of the words quoted does not himself really believe in the clear underlying implication of his words, that the economy is a simple engine which responds to skilful day-to-day steering by a handful of bankers.

This is confirmed when he (or perhaps another leader writer) goes on to discuss the performance of his home central bank, the Bank of England. If familiarity does not breed contempt, it introduces a breath of scepticism.

“How far the MPC [the Bank of England Monetary Policy Committee] itself is responsible for the happy coincidence of low and stable inflation with steady growth is open to question. Since its inception in 1997, the MPC has changed rates no fewer than 23 times. Yet all in the garden is not roses. Over the past four years, output of manufactures has risen a mere 0.2 per cent, while that of services has grown 15.1 per cent. The MPC could do nothing about this.”

Clearly, we are in the presence not of scientific or objective description, but of a practised rhetoric which is tailored to suit what is known to be an uncritical audience. The MPC is portrayed, not as lacking steering skill, but as being in part impotent. But this is sceptical tone is not the usual one. A few days before, a columnist in the same newspaper reflected the conventional attitude:

“The Federal Reserve has proved itself the modern economic policy counterpart to the US Air Force ... it lowered interest rates for the 11th time this year - extending a campaign of unprecedented intensity intended to save the US economy from a slump ... only the most curmudgeonly could fail to marvel at the flexibility and dispatch the central bank has shown in responding to the first signs of slowdown a year ago and to the potential economic catastrophe posed by the terrorist attacks three months ago.”

And again (Financial Times, Nov 2001),

“The decisions by both the ECB and the Bank of England to cut rates by half a percentage point yesterday, rather than the quarter-points expected by the markets, demonstrated that avoiding recession - or mitigating its effects - is now the priority for policymakers.”

And,

“ ‘This is an incredibly powerful statement by the MPC’, says Richard Jeffrey of Charterhouse Economics. ‘They are saying that the reductions in rates they had made before this would not be sufficient to sustain the pace of growth next year.’”

These quotations imply that central bank decisions on base rate, if made skilfully, steer the economy in an intended direction, away from recession towards growth.

If academic opinion is more nuanced, there is certainly no evidence in newspapers and magazines that there is a marked desire to put the public record straight.

A view as sceptical as one could wish is given by Barro, safely buried in his text-book (Macro Economics p472):

“Over the longer term, the Fed moves the discount rate to match changes in market interest rates. Hence, most of the movements in the discount rate are reactions to changes in the economy, rather than vice versa. But the timing and sometimes the amount of a shift in the discount rate are at the Fed’s discretion. It is possible that some of these changes are a useful signal about the future behaviour of the monetary base. No one has yet shown, however, that changes in the discount rate can actually help to predict the future quantity of the monetary base or other economic variables.

“From the standpoint of controlling the monetary base, the existence of the discount window adds nothing to open-market operations. Thus the argument for the Fed’s lending to depositary institutions comes down to the desirability of subsidising selected financial institutions, presumably, mainly institutions that are in trouble. So far, no one has come up with good arguments to justify this policy.”

But, when Barro later spent some time on secondment to the Bank of England, a report on his work there (1995, also summarised in an article in the Financial Times) was devoid of scepticism. On the contrary, he wrote that his results gave evidence “more than enough to justify the Bank of England’s keen interest in price stability” There was no echo here of the remark on p201 of his book with reference to the Weimar hyper-inflation:

“Over the period from 1921 to 1923, the rates of inflation ranged from near zero to over 500% per month! Further, the available data suggest that relatively small changes occurred in aggregate real variables such as total output and employment.”

A similar reticence is shown by Paul Volcker in his preface to “The Central Banks” (Deane and Pringle, 1994), where he implies that his normal tone was one “affirming the glories of central banking”, but near or after retirement, “I found myself reminding my fellow conferees that history provided little support for the simple proposition that the creation of a central bank, in and of itself, would provide much assurance against inflation. Nor was there much evidence that we could look towards any simple rule book to determine when to ease or when to tighten”

The evidence

However, my aim here is not only to add weight to muttered asides deflating the general story that central bank interest rates play a unique role in actually steering or determining output growth, but to show that the central bank’s decisions on base rate do not even determine what they are supposed directly to determine, namely commercial short term interest rates. It is, in fact, to add substance to Barro’s contention in his text book that “most of the movements in the discount rate are reactions to changes in the economy, rather than vice versa”, and indeed to go further in suggesting that they are pure and simple echoes of market-determined changes in interest rates which are already fact when the central bank decision is taken.

The general rhetoric on the operation of the central bank is that the change in base rate changes commercial short-term interest rates and hence stimulates borrowing for both spending and investment. Thus, at the very least, there should be historical evidence that changes in base rate lead changes in commercial or market rates. I will show that this evidence is generally lacking. Note that to prove my case, I am not required to show that the market short-term rate leads the base rate, although it will become apparent that that is the most convenient way to proceed. I am required only to show that the base rate does not plausibly lead the short-term rate, and this will be shown incontrovertibly

For short-term commercial rates, I use the 3-month market rate. The data I have to hand cover a period beginning in January 1995, and ending at the time of writing, January 2002. They relate to the US dollar, the UK pound, and what I will call the Euro. The latter begins by being simply the Deutsche Mark, but later (1st January 1999) becomes the currency linked “indissolubly” to ten other currencies of the “Eurozone”. The data was logged, for another purpose, at nominally weekly intervals, and at dates of base rate changes, from data which appears in tables printed daily by the Financial Times. The table currently being used gives “Libor” rates, but it cannot be guaranteed that the data presented has always come from consistent sources. In my view, its reliability is easily adequate for my purpose, but it will be a simple matter for anyone with access to more reliable data bases to repeat the analysis.

The basis for the work is nine graphs, three for each zone, each of the latter partitioning the period, for ease of presentation, into three parts.

It was hoped, of course, to apply some mathematical procedure to the time-series data for the base rate and for the 3-month rate, to produce numerical “confidence limits” for the truth of a “hypothesis” that set A leads set B by so many weeks or days, or for a “null hypothesis” that neither leads the other. However, it became clear on examination that even this simple relationship of two parameters is too quirky to be captured by simple algebra. There is nothing for it but to look and see.

Each graph covers 1000 days, or about 3 years. The total period is about 2500 days or 7 years. The data represented by straight lines is the central bank base rate. The more variable curve is the 3-month rate. Each dot along its length signifies a tabulated point. Since my data has some “holidays” or holes, it is useful to keep the dots in view in any stretch of the curve deemed to be of particular interest. The third plot on each graph, shown as a discontinuous line shifted regularly downwards relative to the 3-month curve, will be referred to later, and should be ignored at this point (for the UK graphs, it is so close to the 3-month curve as to be barely distinguishable).

The vertical scale is in “basis points” or one-hundredths of a percentage point, and is the same on all nine graphs. The graphs are produced from a Microsoft Excel spreadsheet, using a Visual Basic “macro”. The macro also places the arrows and annotations. The coding is available from me to anyone who wishes it.

The method followed was to white out the base rate lines, and determine by eye the major turning points of the 3-month curve. Since Excel prints on the screen the co-ordinates of any point located by the cursor, it is easy to log those turning points. The base rate lines were then brought back, and the decision points of the central bankers were compared with the 3-month turning points.

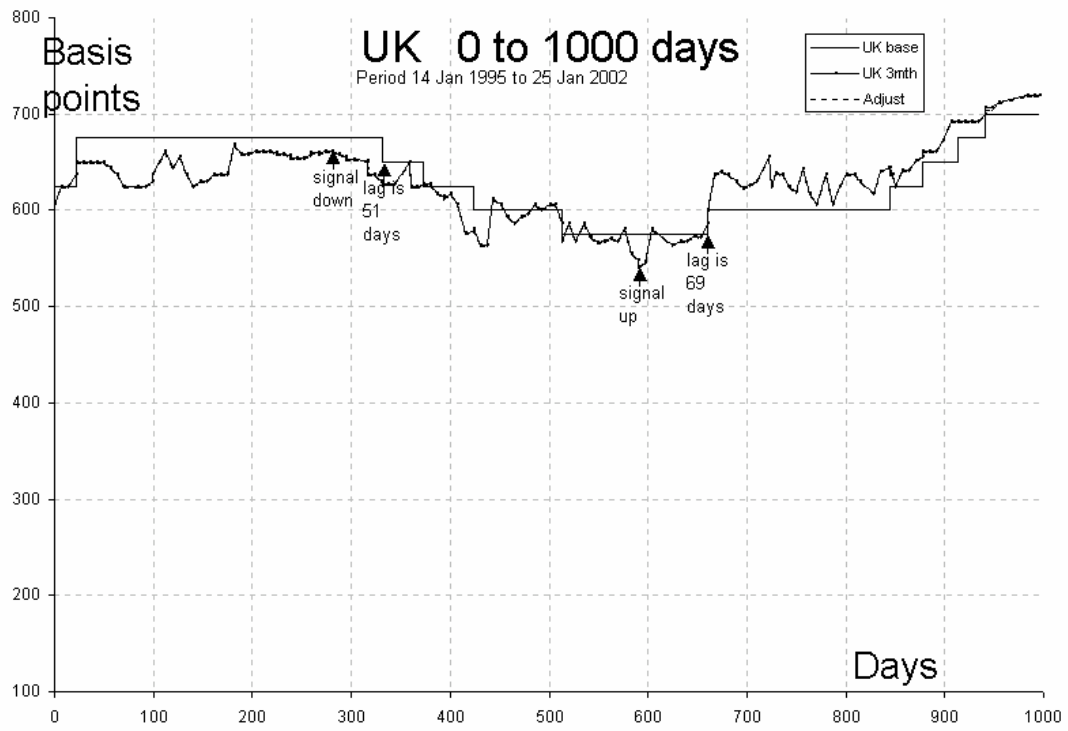
A commentary will now be given on each graph.

UK 0 to 1000 days

It can be seen by hindsight that, at around 290 days, the 3-month UK rate, after a period of quasi-stability, begins a 100 day descent of about 100 basis points. And then, again with the aid of hindsight, after another more stable interval, it begins to rise at about 600 days, and continues to the end of the period shown, i.e., to 1000 days.

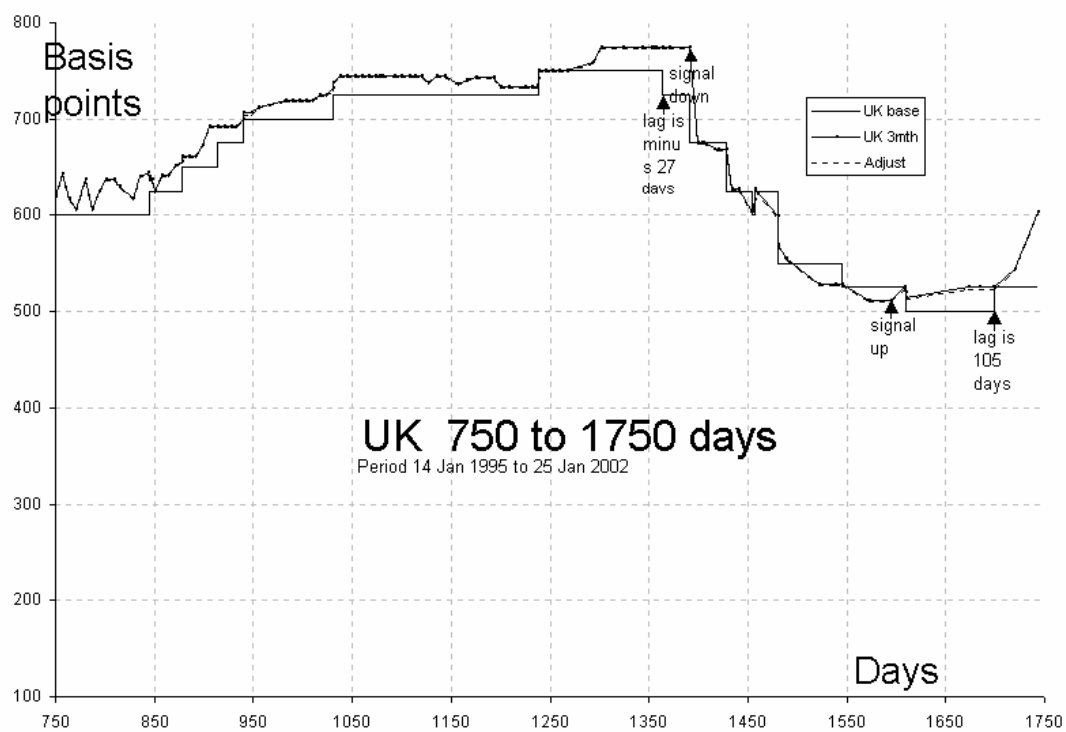
Now let us examine the central bankers' decision history in some detail. The first move downwards is made 51 days after the turning point identified on the 3-month curve. At the moment of decision, the bankers can see the 30-point fall of the 3-month rate, but since they have seen a similar fall at around 110-140 days without reacting, it cannot be said with any conviction that the bankers are being "led" by the 3-month rate. On the other hand, it can be said with total conviction that the 3-month rate is *not* being led by the base rate, since not only does it begin to fall 51 days before, but it pays no particular attention to the bank's belated signal, even going against it for a few days. It may be said to react a little, lagging by a few days, to the bank's second signal, but then it over-reacts by plunging downwards, leaving the bank to catch up 20 days later at about 420 days. It may be said that the upwards turning point indicated at 600 days is very much a matter of hindsight, and could not have been evident to the bankers at their decision point 69 days later, but even here, it is seen that the more decisive upswing of the 3-month rate starts 5 days before the bank's decision, and is very much more marked. After five months of relative stability, the market which determines the 3-month rate marches steadily upwards by 100 points, paying no particular attention to bank decisions, which lag by 10 to 20 days. A further point to notice is the very marked cross-over which occurs. The 3-month curve *appears* to be leading the base rate level, not only in the timing of its upward or downward changes, but in its relative level, in the sense that it is generally below the base rate line when it may be imagined to signalling "down", and above when it may be imagined to be signalling "up". The picture is of a tractor, which has to get on the other side of the dragged object to reverse direction.

The above commentary tries to be fair, but it may be, perhaps unavoidably, tendentious in parts. The important point however, is that it would be almost impossible on the basis of the presented evidence to make a case, however tendentious, that the base rate is the master of the market rate. It could be argued that the bankers, and the participants in the 3-month market are reading the same signs, and that the market agents are lighter on their feet. Even this view would concede that the bank is following a course of inevitability rather than one of "skilful steering". I cannot know, as an outsider, how the 3-month market operates in detail, but I imagine that, as in any market, blind factors of supply and demand operate predominantly, rather than forecasting, deliberation, discretion, and decisions.



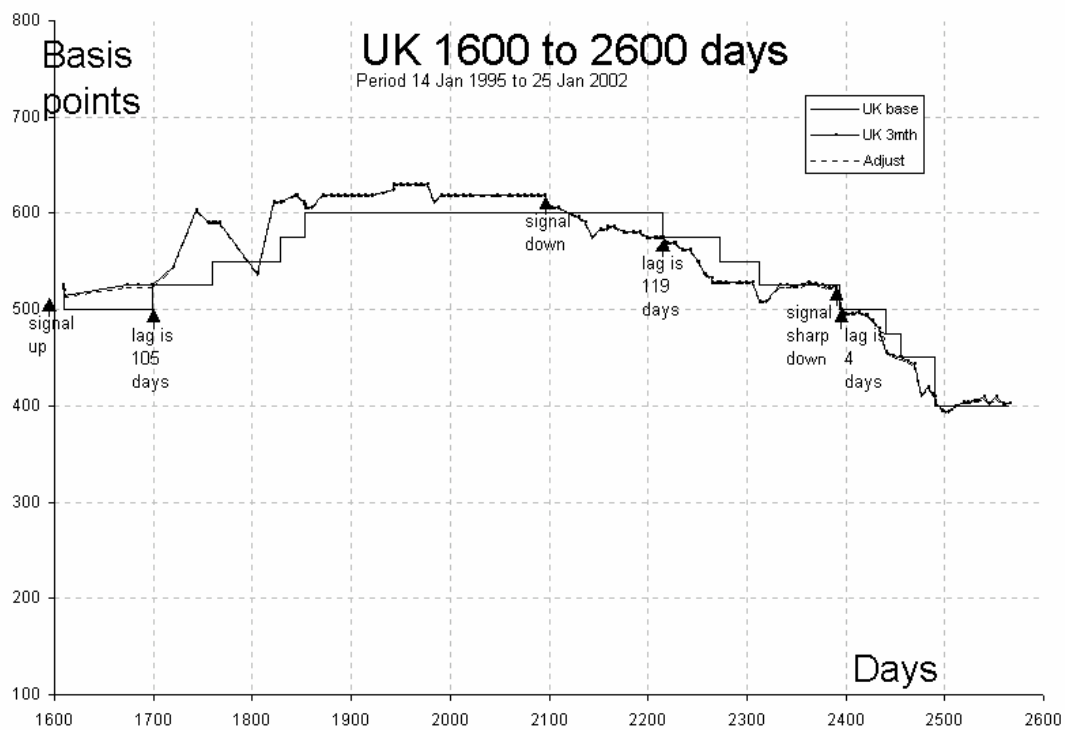
UK 750 to 1750 days

On this graph occurs the only case where the 3-month rate unambiguously lags the base rate in making a change of direction. The 3-month rate seems to ignore completely the bank's signal at around 1360 days (October 1998) and then responds 27 days late. Thereafter the rates descend rather rapidly and in unison for 200 days, dropping 250 basis points. If this 200 day sequence was all that was available, the thesis that the bank plays a leading role would be incapable of being disproved. That is not to say, of course, that it would be capable of being proved either. The louder voices, that is, the establishment, would settle the matter.



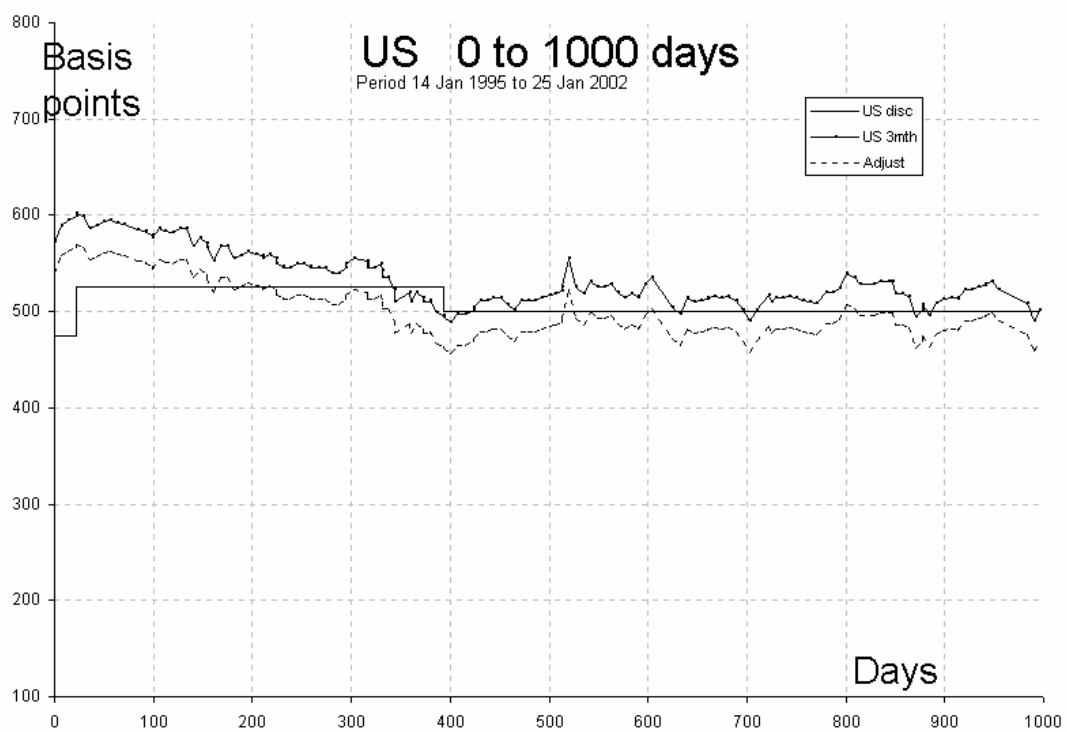
UK 1600 to 2600 days

The picture here is rather like that of the first graph, but in reverse. First, it should be pointed out that the first, upward trending part of the graph is marred by extensive “holidays”, and perhaps by one point which looks as if it might be the result of a typing error. Nevertheless, the general commentary here would be very like that for the first graph, namely clear leads in time for the 3-month curve, first upwards then downwards, and a marked and sustained cross-over in the relative levels which takes place as one trend gives way to the other. This time, it could be claimed that if only the second part of this graph were available, it would be *impossible* to maintain that the bank is playing any role whatever, except that of officially rubber-stamping the result delivered by the market.



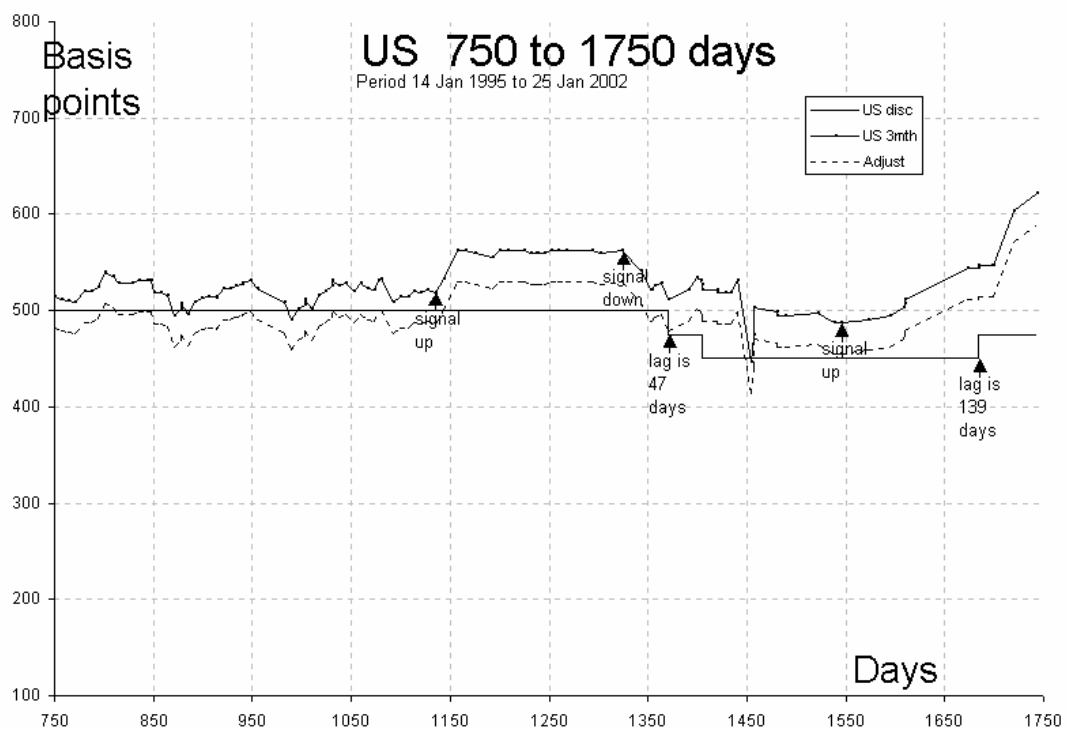
US 0 to 1000 days

The 3-month rate in the first US graph shows no turning points, unless the change from descent to stability can be called a turning point. The 3-month rate starts the best part of a percentage point above the base rate, and tracks steadily downwards for nearly 400 days, seemingly paying no heed to either the level or the zero slope of the base rate. Finally, with the 3-month rate still showing no sign (without the aid of hindsight) of stabilising, the base rate drops, seemingly to keep up, whereupon the 3-month rate, instead of responding to this signal, promptly stabilises. Overall, not much can be speculated on the basis of this graph, except that there is no evidence of the central bank influencing anything during this period. It may be noted that the 3-month rate spends only a negligible time below the base rate.



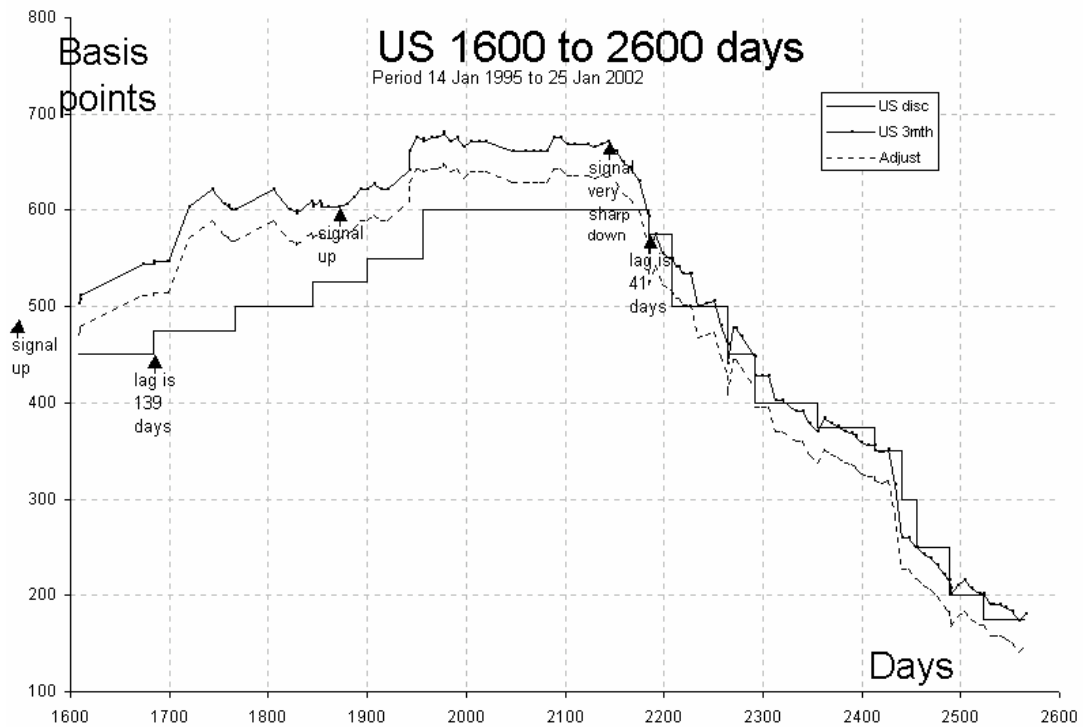
US 750 to 1750 days

After a period of stability lasting nearly 2 years, the 3-month rate signals a decisive (with the aid of hindsight) shift upwards at around 1130 days. A stable gap of 60 basis points is thus opened up relative to the base rate, which persists for 150 days, each rate seemingly ignoring the other. The 3-month rate then decisively signals “down”, and this is followed 47 days later by two 25-point steps downwards by the base rate, as if to maintain the 60 point gap. At about 1540 days, the 3-month rate reverses direction, and begins a steady rise upwards. After a lag of 139 days, with the gap standing at 75 points, the base rate reacts, and, since the 3-month rate continues to rise quite steeply, the gap opens to a maximum of 150 points



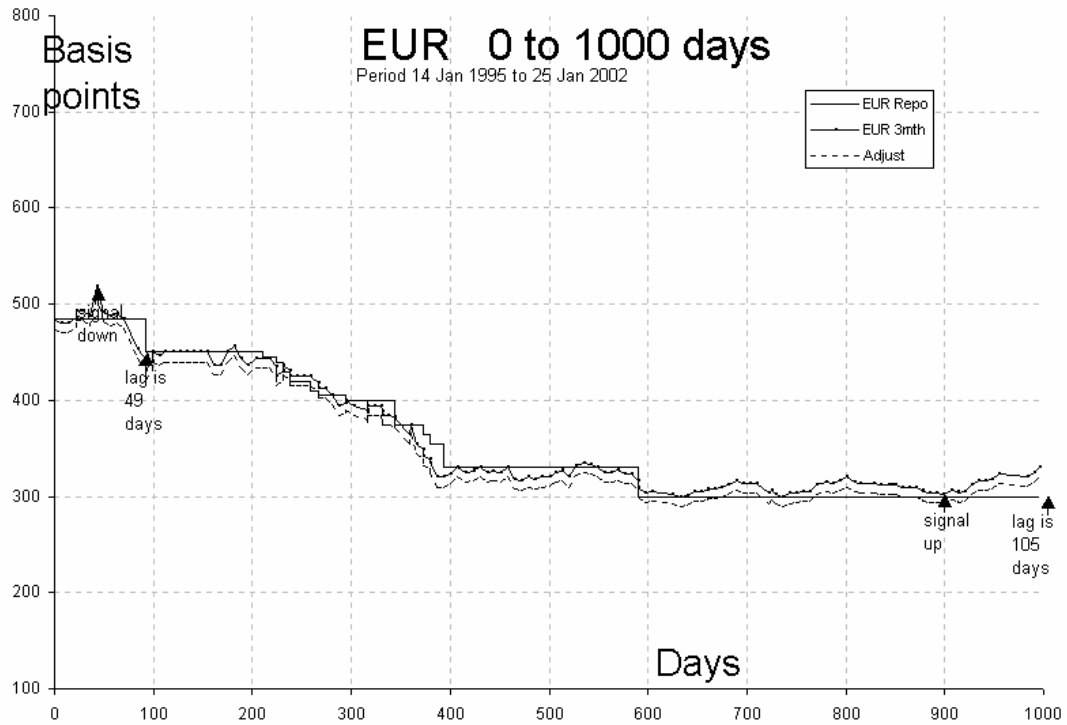
US 1600 to 2600 days

... A succession of five rises in base rate barely keeps pace, and before the last rise, which is of 50 points, the gap is still more than 100 points. As more time passes thereafter, the bankers can see that the 3-month rate has stabilised, still at 60 points or more above their own level. However, at 2150 days, the 3-month rate begins to plunge, the base rate following only after a lag of one month. Thereafter, the picture is of each rate chasing the other downward, but it is fair to say on the basis of attentive examination, that at the moment of each Fed cut, the bankers could see, *without benefit of hindsight*, that the 3-month rate was in more or less steady fall up to each moment of decision.



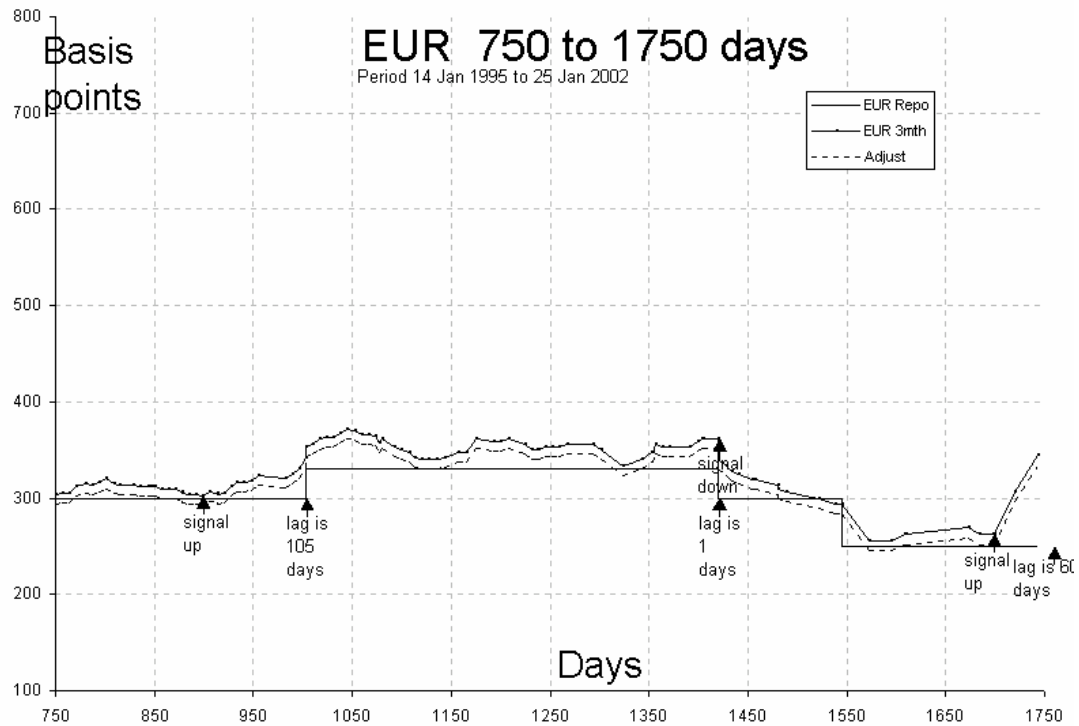
EUR 0 to 1000 days

The downturn signalled by the 3-month (Deutsche Mark) rate at around 40 days and continued thereafter had been in sight for up to 50 days when the Bundesbank responded. Thereafter, there was a fairly continuous reduction in the central bank base rate over a period of 180 days, which, over the second part of this period at least, was clearly led by the 3-month rate. The base rate step downwards at 590 days can be seen, by hindsight, to have been anticipated by the 3-month rate 50 days before. This would not have been evident at the time of decision.



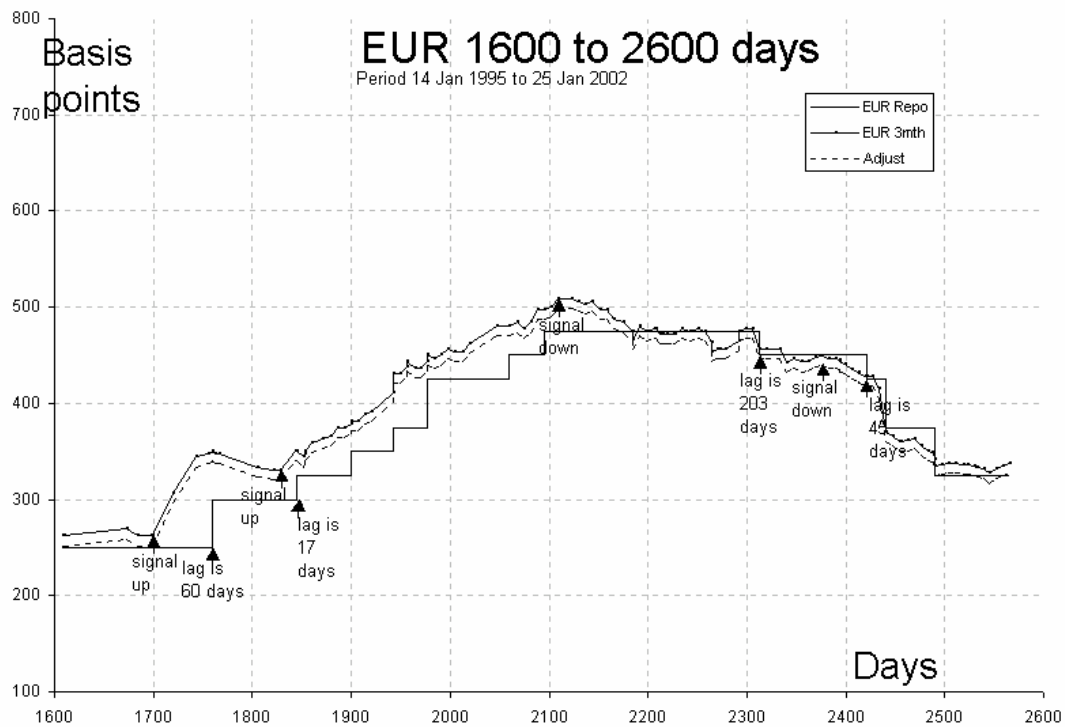
EUR 750 to 1750 days

The next base rate step, this time upwards, at 1000 days, was heralded by a 3-month rate steady rise beginning more than 100 days before. The 3-month rate reinforced its message for some time thereafter, before settling into what can be seen by hindsight to be stability. The base rate step-down at 1420 days does seem to be virtually simultaneous with the 3-month rate break, but, given that the 3-month rate seems at this period to have been systematically around 25 basis points higher than the base rate, the next step down at 1550 days could be said to be signalled rather clearly by the steady closure and reversal of this gap.



EUR 1600 to 2600 days

The evidence of the next phase is quite unequivocal. Over a period of 400 days, the 3-month rate rose almost monotonically upwards through 225 basis points, or 2.25 percentage points. It is unarguable that at the seven upward steps taken in succession by the central bankers, compelling and almost unvarying evidence was available to the central bank decision makers, from the 3-month data, that the market rate was soaring upwards. All they needed to do was keep up, with the mean slope of 3 or 4 basis points per week. At 2130 days, and almost without pausing, the 3-month rate turned and began to fall, and fell more or less fast all the way to the date of writing. Again, the fact that, in time-sequence terms, the base rate is lagging the 3-month rate by very considerable periods is clear from the graph.



The “tractor” effect

In the commentary on the three UK graphs, it was remarked that in periods when the 3-month rate seemed to be leading the base rate upwards, it led from above, while during a downward trend, it tended to lead from below. This observation did not come so readily for the remaining six graphs, although, for the EUR graph at day1390, a *closing* of the gap to zero and a little beyond, while being only a vestigial crossover, was a hint in this direction. The question arises: of what significance is the general level of the 3-month rate relative to that of the base rate? I have chosen the 3-month rate simply because the central bank base rate is aimed in some not-well-defined way at influencing short-term rates, and the 3-month rate is the shortest tabulated short-term rate which is reasonably stable. There is no reason to suppose that they are closely related as to absolute level, and to the extent that they are, there is no reason to suppose that the relationship would be the same under different banking cultures.

Since I am interested in how the rate of change, or the *shape*, of one is related to the rate of change, or the shape, of the other, it is useful to bring the shapes arithmetically together, to eliminate the effect of absolute level. This has been done by moving the 3-month data up or down (denoted by a negative sign) by a sufficient number of basis points to minimise the sum of squares of the gaps between the 3-month curve and the base rate curve, separately for each zone, but over the entire period of 2500 days. The result was -1.5 , -32.5 , and -10 basis points for the UK, US and EUR zones respectively - that is about zero for the UK, a third of a percentage point down for the US, and a tenth of a percentage point down for the EUR zone. This at once shows why the crossover effect was seen at once for the UK, glimpsed for EUR, and not remarked on at all for the US.

On each graph, the “adjusted” 3-month rate is shown as a discontinuous curve, and without the small dots. If all the six graphs for the US and EUR zones are examined in some detail, it is seen that the adjusted curve tends throughout to lead the base rate curve, from above when increasing, from below when decreasing.

Discussion

There is a striking difference between the general tone of the commentary above and that of the very many discussions which take place before and after central bank base rate decisions are expected, and to a lesser degree, at all times in between. For most of us, perhaps, these discussions take place in the local daily newspapers such as the Financial Times, in local weekly magazines such as the Economist, and on local radio and TV. But I have seen no public evidence that academics are at pains to publicise a different perspective, and I do not doubt that public comment in the United States, Germany or France follows a similarly respectful and pseudo-learned course.

These discussions often go into some detail of all the “indicators” that must be gravely weighed up – inflation, exchange rate, unemployment, house prices, fears of boom or bust, exports and imports, retail sales, savings rates, consumer spending, manufacturers’ confidence indexes, and so on and on. The nearest, most direct, indicator, the current commercial short-term interest rate, is never mentioned. Often,

the central bank is said to be too late, or too early, or to have cut too much or too little. “Economic policy”, often shortened to “policy”, is the term used to denote this one decision on one number. Mr Greenspan is (so far) the nearest approach to God that we have.

The picture conveyed in my commentaries above, on the other hand, could not be more different. It is boring, and gives little scope for “informed” discussion. At the risk of appearing flippant, it might be said to be that, far from needing immense skill, any reasonably able child in the higher classes of any school could look at the trend of US 3-month market rates, subtract a third of a percentage point from them, and issue his or her decision at intervals, as and when a quarter point or a half point adjustment to the base rate was necessary to keep up. That is not to gainsay the skills of Mr. Greenspan. But his skills are in leadership, politics, rhetoric and theatre. If he also has unusual skills in economic analysis, they are not needed in this particular part of his job.

It is by no means clear why the normal forces of a market – the invisible hand - are so widely discounted, in media which are generally only too enthusiastic about the merits of the market in every other sphere. Depending on a highly complex set of factors, there are always people and institutions who have money they are anxious in varying degrees to lend, and others anxious in varying degrees to borrow. Generally, it might be guessed that borrowers are anxious to borrow money in times of boom, but they neither can nor will do so in times of slump unless the lender brings his price (interest rate) down. The central banker story turns this on its head. *He* is presented as *deciding*, after analysing in immense detail the health of the economy, and as matter of his free and independent choice, to lower interest rates, in the latter case, “in order to stimulate the economy”! This is a very visible hand, as visible as that of a Soviet planning ministry. Even if my numerical evidence is disregarded, this is *a priori* such an implausible idea that it is astonishing that it attracts any, let alone the observed universal, credence.

In the UK (probably in other zones something similar happens), the idea is given weight by the fact that responsible and respected people can be heard pleading with the central bank for a cut in its base rate. This may stem from the circumstance that in practice, the Bank of England leads an informal banking cartel, in the sense that individual commercial banks often write contracts for business loans with variable interest “based on” the individual bank’s “base rate”. After each Bank of England base rate change, it is normal for banks of any importance to place advertisements announcing, voluntarily, that their own base rate is changing in unison with the central bank’s base rate. Mortgage lenders are generally more independent, both from the UK central bank and among themselves, but they follow on too, if more untidily. It may be imagined that the spokesman for a sector of business could not afford to be perceived to be absent from such a seemingly important debate. The point is, though, that, according to the view expressed above, the hard-pressed (business) agents represented by those spokesmen have already, individually, made their market signals directly or indirectly to the money market agents who determine the short-term rates, by withholding their borrowing until the price drops. The seemingly powerful central banker could as well, in this picture, be replaced by the able schoolchild mentioned above, who merely responds in a moderately skilful way to the changes in those short-term rates. It is true that until 1997, the UK bank rate was finally settled by a

politician, and my data does not go back far enough to see what effect this had, but it is difficult to believe that such a politician could long resist the pressures of the money market conveyed from the lending institutions via the central bankers and his Treasury officials.

Although I have tended to portray the central bank as merely reacting to readily available market signals, there can be little doubt that the intense debate which goes on concerning the central bank's supposed analysis of the economy must be present in the minds of all the agents who determine the daily or hourly variations of the 3-month rate. Thus it might be argued, not that the central bank is following the lead of the 3-month market, but that it is indeed analysing the situation, and coming independently to the same conclusion as that of the market agents. However, it strains belief that agents in a market engaged merely in the making of deals between lenders and borrowers, are in any substantive way influenced by thoughts of "what is good for the economy", the concern which is portrayed as that of the central bank.

If the interest-setting role of the central banks is said to be of paramount economic importance, and if this perception is near universal, how can it be that my analysis of it not only shows it to be in fact illusory, but shows it easily and by the most simple means? After all, having found that an able schoolchild would have all the equipment needed to do Alan Greenspan's job, my method of demonstrating it is also at the level of schoolwork. There is no learned bibliography, no invocation of Smith or Walras, no mention of heteroskedasticity, of unit roots, or of the Dickey-Fuller test, or indeed of any notion outside of the normal vocabulary of conversation. That, be it noted, is not because academic treatments are in this case over-powerful, but because they are hopelessly simplistic and inadequate.

How is it possible that legions of extremely clever people apparently subscribe to the conventional terms of a story which is patently implausible? This is indeed extremely puzzling, but it is by no means an unusual situation. It appears to be a rooted part of the human condition. The above-mentioned schoolchild might demonstrate in a very few words, and irrefutably, that legions of the good and great subscribe to religious and moral stories which are quite patently culturally determined, and therefore unlikely to be, as claimed, "true". When observations, ranging from mere asides to sustained homilies, couched in these traditions, are made, they wing on their way unopposed. It is not as if they are unopposed because they are thought to be not worth opposing. No, we nod our heads. They are part of the comforting social matrix we live in. Indeed, the view, recently read, that "these faiths [Christianity and Islam] have been the biggest of the big ideas that have organised our lives across continents for up to two centuries", is perfectly plausible.

Nor, of course, is there anything new in the sort of message I am conveying. It is exactly the message perceived and conveyed by the outsider, Andersen, in his story (for children!) of the small child and the emperor. This message, that the essential quality of the truth-seer is a total absence of cleverness, is characteristically read, absorbed, agreed with, smiled at - and ignored. Truth, among the learned and the unlearned, the clever and the stupid, the fluent and the tongue-tied, is the concern of only a tiny minority, those for whom career is not or no longer important, or for whom career and the pursuit of truth are in close alignment, namely those active in the hard sciences.

At the time of writing

What would the schoolchild/central banker be thinking at the time of writing, regarding a possible change in base rate? No change, for the UK and Euro zones. Keep open the possibility of a further step downwards, for the US.

Summary and Conclusions

The general view of the media, bankers, business and politicians, not noticeably contradicted by academics, is that one of the main functions, or *the* main function, of the central bank is to analyse the progress of the economy, and then to steer it with skilful judgement towards health and growth, by making decisions to change their base rate, with carefully chosen timing, amount and direction. The data presented here show that it is impossible to sustain this notion of skilful time-critical steering, or even that the central bank does in fact lead or determine the short term interest rates available to savers or business. The contrary proposition, that commercial short-term interest rates are in fact observed and followed by the central bank, is perhaps not mathematically provable, but seems generally to be in accordance with the observed facts.

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