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Will the world follow Japan?

Risk of deflation: what does it mean for equities and bonds?

Equity/gilt yield ratio very different from past

The recent turmoil in financial markets has had a drastic effect on the relative valuation of equities and bonds. On average over the last 30 years the yield on long-dated gilts has exceeded that on equities (as measured by the FT all-share index) by 5.5%. This 5 ½% difference can be interpreted as approximating dividend growth (which ran at 8 ½% a year in the period) minus an allowance (the "equity risk premium") for the greater volatility of equities. But today gilts are yielding only ¾% more than equities. (Indeed, if the dividend yield were adjusted upwards for share buy-backs, it would be over 4% and is little different from the gilt yield.)

Equities will outperform gilts and coporate bonds,

As is well-known, if the yield on equities were stable, the total return would be the sum of the yield itself and the growth rate of the dividend stream. For the UK stock market as a whole, the growth rate of dividends should be similar to that of the UK's nominal gross domestic product. (In fact, over most long runs dividends on quoted companies seem to have lagged a little behind nominal GDP, but the difference is not great.) The sensible assumptions for the next two or three decades have to be that both inflation and real GDP growth will average 2 ½% a year, implying that nominal GDP increases by 5% a year and dividends by at least 4% - 5% a year. If dividend growth does indeed run at this rate, total returns on equities will trounce those on gilts (and corporate bonds, if by a narrower margin).

unless the world follows Japan and suffers deflation

There is one way to defend the current relative pricing of equities and gilts. It is to argue that the world, including the UK, is on the brink of a deflation similar to that suffered in Japan since 1998. If consumer prices were to start falling by 1% - 2% a year, dividends would grow at a miserable rate and a case could be made that equity yields should be similar to or above gilt yields. That raises the larger question, "is there a serious risk that the world will follow Japan down the deflationary path?". The sources of the Japanese *malaise* are controversial, but a common and plausible view is that the crippled banking system is the heart of the problem. Bad debts have hit banks' capitial, and capital inadequency has thwarted the expansion of credit and money. For the deflationists to be right, similar weakness in the banking systems of other major countries would need to be found. In fact, most banks in North America and Europe are in far healthier condition than their Japanese counterparts. The USA is crucial. According to p. 268 in the June issue of the *Federal Reserve Bulletin*, the equity capital of the US banks "advanced nearly $67b., or 12.8%, in 2001, the fastest growth since 1992. Net income, after taxes, increased $5.7b., to $75b., allowing banks to boost retained income $3b., to $20b., even after dividends were increased." 2002 has been an awkward year, because of the unravelling of the tech bubble nonsenses of 1999 and 2000. But American banks have ample capital and healthy operating profits. In the year to August US M3 rose by 8.3%; well ahead of the trend growth rate of real output. Prolonged deflation at the global level is not a serious prospect.

But this is unlikely

Professor Tim Congdon **7th October, 2002**

Summary of paper on

'Why was Black Wednesday so golden?'

Purpose of the paper

Contrary to expectations in late 1992, the UK has enjoyed exceptional macro-economic stability since the pound's expulsion from the European exchange rate mechanism on 16th September 1992. The paper tries to quantify and explain the improvement in macro-economic stability.

Main points

* **The post-war period can be divided into the stop-go period (Q3 1945 - Q2 1971, when the exchange rate was fixed), the boom-bust period (Q3 1971 - Q3 1992, when the exchange rate was mostly floating) and the decade of stability from Q4 1992.**

* **The stop-go period was more stable than the boom-bust period, but the post-ERM decade enjoyed greater stability than either of the two previous periods. This increase in stability can be measured by the standard deviation of real GDP growth, inflation and interest rates.**

* ***Quantifying the improvement.*** **The standard deviation of output growth in the post-ERM decade was less than half that in the stop-go and boom-bust periods. (See p. 7.) The standard deviation of RPIX inflation in the post-ERM decade was less than a tenth (!) that in the boom-bust period, while the level of inflation was lower than in the stop-go and boom-bust periods. (See p. 9.) The standard deviation of interest rates (as measured by the Treasury bill rate) in the post-ERM decade was less than a third that in the previous periods.**

* ***Explaining the improvement 1.*** **The increased macro-economic stability of the post-ERM decade is to be explained by neither Keynesianism (in the sense of activist fiscal policies) nor monetarism (in the sense of money supply targets). (See pp. 12 - 14.)**

* ***Explaining the improvement 2.*** **The crucial proposition in delivering the macro-economic stability of the last decade is that the change in inflation depends on the level of the so-called "output gap" (i.e., the difference between the actual and trend levels of output). This proposition is implied by Friedman's 1967 ideas on the natural rate of unemployment. It could be called "output-gap monetarism". (See pp. 14 - 16.)**

This paper was written by Professor Tim Congdon, with assistance from Mr. Richard Wild of Cardiff Business School in the preparation of the statistics. It is the first fruit of a research project on *A Monetary History of the UK 1945 - 2001* being carried out at Cardiff Business School under Professor Congdon's supervision.

Why was Black Wednesday so golden?

Comparing a decade of stability with stop-go and boom-bust

The pound's expulsion from the ERM followed by a decade of macro-economic stability,

On Wednesday 16th September 1992 heavy selling of the pound on the foreign exchanges forced it out of the European exchange rate mechanism. The UK's exit from the ERM was regarded at the time as both a failure of economic policy and a national humiliation. As it is now just over ten years later, the event can begin to be placed in a wider historical context. The central point is surprising, but clear. The decade following the pound's expulsion from the ERM has been a triumph for British economic policy-making. The sterling crisis of September 1992 did not foreshadow increased instability, but instead was followed by greater macro-economic stability than in any previous phase of the UK's post-war history. Black Wednesday has become Golden Wednesday.

prompting two questions "how much more stable was the post-1992 decade?" and "why was it more stable?"

The paradoxical outcome was discussed by Sir Alan Budd, Chief Economic Adviser to the Treasury between 1991 and 1997, in the Julian Hodge Institute lecture in April this year. The lecture, entitled 'The quest for stability', noted that new policy-making arrangements introduced in late 1992 had "exceeded all expectations". (1) Not only had the UK had "remarkably stable growth" in the 1990s, but it had "survived the recent world recession better than any other major economy". Budd's lecture is a valuable starting-point, but it prompts two further questions. The first relates to quantification. If the decade after September 1992 was better than earlier decades, how much better was it? Without an answer to this question, the impression of greater stability after 1992 will remain only an impression. The second and perhaps more fundamental question is one of explanation. On the whole the UK's record in macro-economic management between 1945 and 1992 had been mediocre. Indeed, this mediocrity had come to be seen not only as an aspect of a larger economic inadequacy as the UK's share in world output and exports declined year by year, but as inevitable and never-ending. What happened in 1992 which ended (or at any rate interrupted) the unsatisfactory record?

Defining the exercise

The post-1992 decade compared with a stop-go period (1945-71) and a boom-bust period (1971-92)

Budd argued in his lecture that economic policy-making from September 1992 had a considerable degree of continuity, with a focus on inflation targets and a de-politicisation of decision-taking. One way of assessing the stability of the decade after September 1992 is to compare it with previous periods in which economic policy and outcomes also had some sort of unity. In this paper a comparison is made with two earlier periods – a stop-go period from the third quarter (Q3) 1945 to Q2 1971 and a boom-bust period from Q3 1971 to Q3 1992. In the 26-year period from the end of the Second World War to Q2 1971 the UK participated in the Bretton Woods system of fixed exchange rates. Although the pound suffered a heavy devaluation in 1949, it was then kept within the narrow limits ($2.78 - $2.82) set by the Bretton Woods rules until November 1967. This fixity of the exchange rate conditioned all economic policy-making. The world economy was far more stable than it had been in the inter-war period, but the need to defend the pound's exchange rate led to frequent policy changes in the UK and economic activity fluctuated in mild stop-go cycles.

Stop-go period had fixed exchange rate, boom-bust period a floating exchange rate

The system of fixed exchange rate came to end with the suspension of the dollar's convertibility into gold in August 1971. Apart from a brief flirtation with the European "snake" in the spring of 1972, the UK had a floating exchange rate against other major currencies until October 1990, when it joined the ERM. With no explicit external constraint on policy, monetary policy was extremely loose in the 18 months from autumn 1971 and a wild boom developed. Although a degree of order was restored to policy-making by the introduction of money supply targets in 1976, the operation of these targets was widely deemed to be unsatisfactory. With much uncertainty about the best policy regime for the UK, the conduct of policy was often erratic. Big swings in interest rates and inflation were accompanied by two big boom-bust cycles (from 1971 to 1974; and from 1986 to 1991) and one smaller cycle (from 1977 to 1982). The period can be fairly described as "the boom-bust period". The analytical task becomes the comparison of macro-economic stability in three periods – the stop-go period, the boom-bust period and the decade of stability from September 1992.

Three dimensions of macro-economic instability to be analysed,
- instability in demand and output,
- instability in inflation, and
- instability in interest rates

The next step is to propose the macro-economic magnitudes whose variability is to be measured. Macro-economic instability has at least three dimensions – instability in demand and output, instability in inflation, and instability in interest rates. Of course, other policy goals are relevant. For example, a case could be made that fluctuations in employment have a more meaningful impact on people's welfare than fluctuations in demand and output. Much of the post-war period was indeed characterised by official concern to maintain so-called "full employment". However, the labour market saw such extensive structural and legislative changes over the decades that unemployment statistics have a quite different significance in 2002 from what they had in 1945. By contrast, the concept of gross domestic product has remained much the same, despite great changes in its composition and level. Instability in the growth of gross domestic product is therefore chosen as the first indicator. (The growth rate is the annual rate and a quarterly series is analysed.)

Exchange rate instability might also be examined

Financial instability is measured here by instability in inflation and interest rates, but again there is an alternative. For many companies – particularly manufacturing companies exporting a high proportion of their output – instability in the exchange rate is equally or more important. Despite this, the exchange rate plays no role in the current exercise. One problem is that businesses value stability in the real exchange rate (i.e., the exchange rate adjusted for differences in inflation between nations) as well as stability in the nominal exchange rate, but unfortunately there are several ways to measure the real exchange rate. Arguably the omission of the exchange rate handicaps the stop-go period in a comparison with the boom-bust period and the final decade, a point which needs to be remembered in the comparison of the three periods. (As already noted, apart from the devaluations of 1949 and 1967, the exchange rate was fixed in the stop-go period. The period would necessarily do very well in a comparison of nominal exchange rate stability. See chart opposite.)

RPI and RPIX both taken as measures of inflation

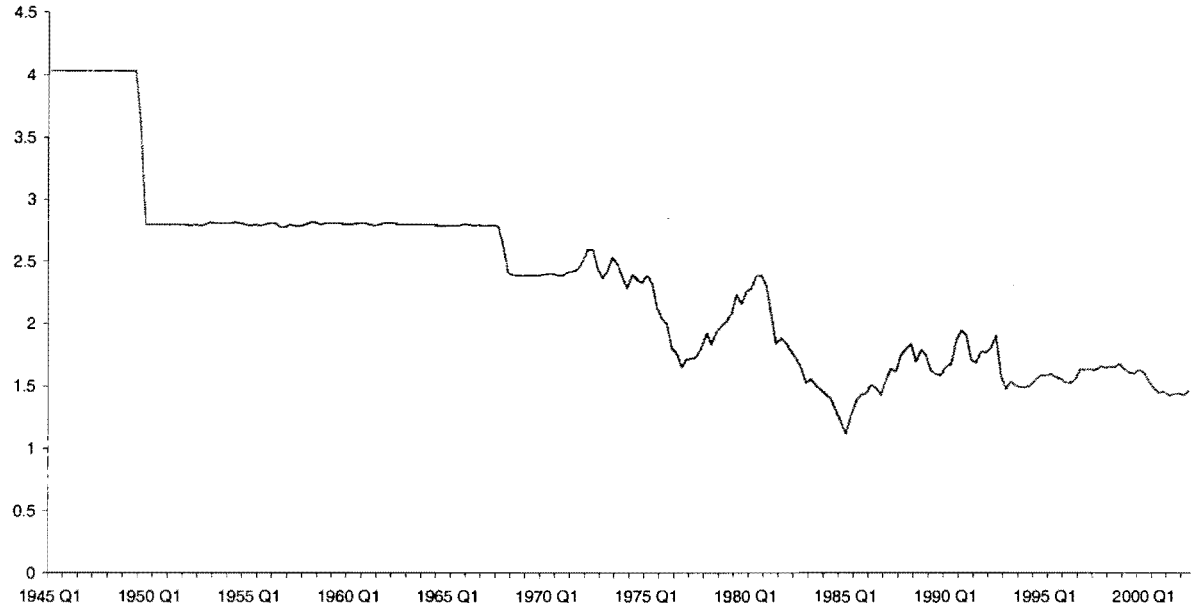
A further complication is that the phrase "the instability of inflation and interest rates" begs the questions "which inflation rate?" and "which interest rate?". As the policy target in the final post-ERM decade was expressed in terms of RPIX (i.e., the retail price index excluding mortgage interest costs), it might seem logical to use RPIX in the stop-go and boom-bust periods. But there is a difficulty, that mortgage interest costs were included in the retail price index only from 1976, and the index is not wholly comparable before and after this date. A sensible answer is to regard both the "headline" RPI and the "underlying" RPIX as valid inflation measures. Hence the instability of both needs to be measured, and that is what is done here. (As with GDP, the change under review is an annual rate and a quarterly series is analysed. Note that RPI and RPIX figures are published monthly, but nothing of substance is affected by using a quarterly average series.)

Treasury bill rate used as measure of interest rates

The post-war period saw a number of far-reaching changes in the structure of the British financial system. Associated with these changes were shifts in official emphasis on different interest-rate concepts, as well as a few re-designations of interest-rate concepts whose underlying economic meaning was quite stable. For example, "Bank rate" – which dated from 1833 and had been the traditional interest-rate benchmark in the early 20th century – was replaced by Minimum Lending Rate in October 1972. It nevertheless remained the same basic notion, the lowest rate that the Bank of England would lend to the banking system. (2) Fortunately, one instrument – the three-month Treasury bill – has changed little over the decades. Treasury bill rate has therefore been chosen as the measure of interest rates for current purposes. (Again, a quarterly series is used.)

The dollar/pound exchange rate 1945-2002

The stability of the rate in the stop-go period (1945-71) is obvious



Instability measured by standard deviation and co-efficient of variation

So the increase in GDP, the annual rates of RPI and RPIX change, and the Treasury bill rate are taken to be representative of output changes, inflation and interest rates respectively. Broadly comparable statistical series are available for all three variables over the entire 1945 – 2002 period under consideration. (3) Two familiar ways of measuring instability in economic series are the standard deviation and the co-efficient of variation, where the co-efficient of variation is the standard deviation divided by the mean. Both these measures are presented here, although the focus is on the standard deviation. The standard deviation is a valid measure of volatility for the GDP growth rate, the RPI inflation rate and the Treasury bill rate, and its meaning is clear. A low standard deviation signifies low instability and successful policy. (The status of the co-efficient of variation is more ambiguous and it is not always helpful. (4))

Quantifying the improvement

i. Output

Post-1992 period had more stable output growth than the two previous periods

The key results are given in the accompanying tables and charts. Table 1 refers to output volatility in the three periods. The standard deviation of the output growth rate in the final decade is less than a half that in the two previous periods, which is plainly a major improvement. One surprise is that the boom-bust period does not appear to be more unstable than the stop-go period, with the two periods having roughly the same standard deviations of the output growth rate. However, this is largely due to extreme output fluctuations in the immediate aftermath of the Second World War. Output fell heavily in 1946 because of demobilization, while the severe winter of 1947 also hit production badly. Conditions returned to normal only in 1948 and 1949, and arguably a more valid alternative period for comparison runs from 1949 Q1 to 1971 Q2. The standard deviation of the output growth rate in this slightly shorter period is appreciably lower, at 1.94. As the mean growth rate is also higher at 2.8%, the co-efficient of variation drops to 0.68.

and indeed was more stable than the stop-go period, even excluding immediate post-war years

The effect of excluding the highly disrupted first three post-war years is therefore to make the stop-go period noticeably more stable than the boom-bust period, in accordance with the historical stereotypes. But it is worth noting that the difference between the standard deviations of the output growth rate in the final decade of stability (1.94 minus 1.01, or 0.93) and the post-1949 stop-go period is greater than the difference between them in the post-1949 stop-go period and the boom-bust period (2.69 minus 1.94, or 0.75). As the stop-go era was commonly regarded by contemporaries as enjoying impressive economic stability compared with the inter-war period, and as it continued to be lionized for this reason during the boom-bust years, the scale of policy-makers' achievement of the 1990s emerges yet more emphatically. (5)

ii. Inflation

Lamont set inflation target in October 1992

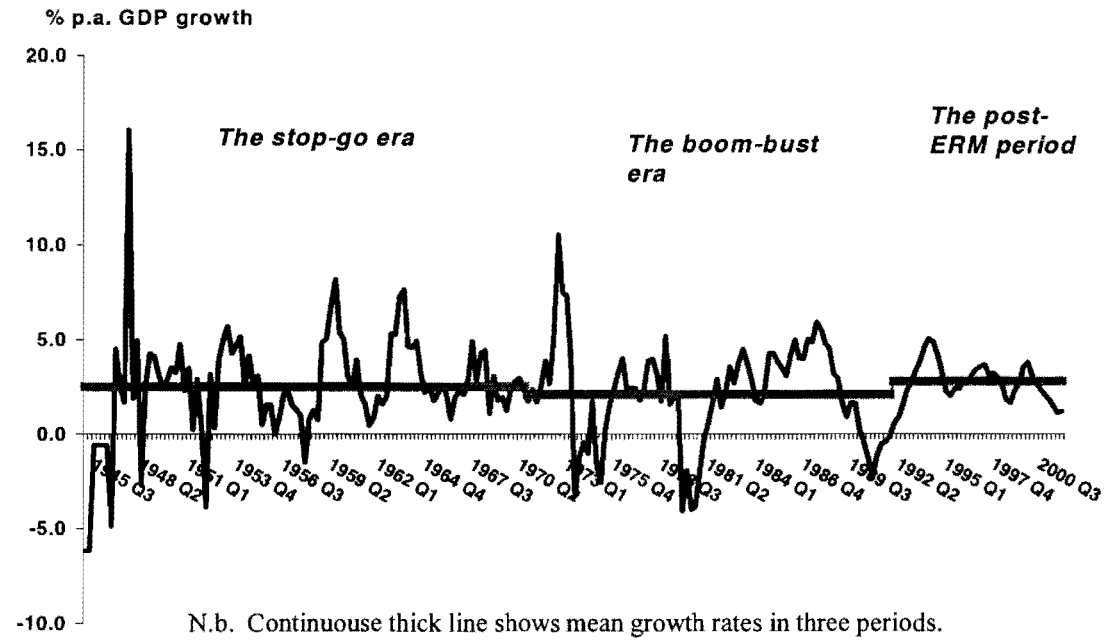
While the output growth comparison demonstrates that the post-September-1992 decade was very good compared with both the stop-go and boom-bust periods, the inflation comparison is even more favourable. Indeed, the stability of inflation in the ten years from September 1992 has to be described as astonishing after all the mishaps and wrong turnings in British macro-economic policy in the preceding 45 years. Inflation targets were introduced by the Chancellor of the Exchequer,

Table 1 Output volatility in three post-war periods

The figures below relate to the annual (i.e., four-quarter) change in gross domestic product (in market prices, with constant 199 prices). The series analysed is quarterly.

1. The stop-go period, 1945 Q3 - 1971 Q2	
Mean output growth rate	2.5%
Standard deviation of output growth rate	2.80
Co-efficient of variation	1.10
2. The boom-bust period, 1971 Q3 - 1992 Q3	
Mean output growth rate	2.1%
Standard deviation of output growth rate	2.69
Co-efficient of variation	1.29
3. The decade of stability after September 1992	
Mean output growth rate	2.8%
Standard deviation of output growth rate	1.01
Co-efficient of variation	0.36

Sources: National Statistics website, and calculations by author and Mr. Richard Wild of Cardiff Business School.



N.b. Continuouse thick line shows mean growth rates in three periods.

Mr. Norman (now Lord) Lamont, in October 1992. The annual increase in RPIX was to be kept within a 1% - 4% band for the rest of the parliament (which lasted to 1997), with a hope that it would be towards the lower end of the band by the parliament's end. In 1997 the newly-elected Labour Government re-iterated the 2 ½% RPIX target as well as announcing the radical institutional change of making the Bank of England independent. The Bank's Monetary Policy Committee was given the job of keeping the annual RPIX increase 1% either side of the 2 ½% figure. In short, the UK had an inflation target – to be understood as a 2 ½% annual increase in RPIX – more or less without interruption for a decade.

Target met almost exactly over next decade, with standard deviation of inflation falling to a tenth (!) of its level in the boom-bust period

What happened? The answer – given in Table 2 on p.9 – is that the mean increase in RPIX in the 38 quarters to 2002 Q2 was 2.6%, with a standard deviation of 0.41. So the target was met almost exactly. By contrast, in the boom-bust period the comparable measure of retail price inflation averaged 9.6% with a standard deviation of 5.66. Not only did the UK cut inflation in the post-ERM decade to almost a quarter of the figure seen in the previous 20 years, but it also reduced the volatility of inflation to less than a tenth of the former level! Inflation was not much lower in the final decade than in the 1950s and 1960s, but it was significantly more stable. Overall the verdict has to be highly complimentary to policy-makers' record in reducing and stabilizing inflation. (The comparison is made slightly awkward by the absence of a RPIX before 1976. The "comparable measure of retail price inflation" in the boom-bust period is taken to be the annual increase in the all-items retail price index until 1975 Q4 and in RPIX from 1976 Q1. Only the all-items RPI is available for the stop-go period. The mean inflation rate from 1945 Q3 to 1971 Q2 was 3.8%, with a standard deviation of 2.66; the mean inflation rate from 1949 Q1 to 1971 Q2 was 4.1%,, with a standard deviation of 2.56. Note that the modern retail price index was introduced gradually between 1947 and 1956. It replaced an earlier cost-of-living index. Both the cost-of-living index (to 1947) and the interim RPI (to 1956) are accepted as valid measures of retail price inflation in the current exercise.)

iii. Interest rates

Post-ERM decade again much more stable than stop-go or boom-bust periods

The last variable to be considered is the rate of interest. Here, too, the post-ERM decade stands out as by far the most stable phase in the 57 years of post-war experience, with markedly better macro-economic management than the preceding boom-bust period. Table 3 on p.11 shows that the mean Treasury bill rate in the 1992 Q4 – 2002 Q2 period was 5.83%, with a standard deviation of 0.70. In the boom-bust period the mean Treasury bill rate was 10.55%, with a standard deviation of 2.65, and in the stop-go period it was 3.72%, with a standard deviation of 2.36. So – when measured in this way – the volatility of interest rates in the post-ERM decade was less than a third that in either the boom-bust or the stop-go period. The greater stability must have facilitated the tasks of financial control and planning for companies, as well as coming as a welcome relief to households after the strain of 15% base rates for most of 1990.

No quantification of macro-economic stability can be absolutely final. There are too many potential variables to discuss as well as a wide variety of methods of judging

Table 2 Measures of inflation volatility in three post-war periods

I. Inflation measured by the all-items retail price index

The figures below relate to the annual change in the all-items retail price index. The series analysed is a quarterly average of the monthly values.

1. The stop-go period, 1945 Q3 - 1971 Q2

Mean annual inflation rate	3.84%
Standard deviation of inflation rate	2.66
Co-efficient of variation	0.69

2. The boom-bust period, 1971 Q3 - 1992 Q3

Mean annual inflation rate	9.81%
Standard deviation of inflation rate	5.70
Co-efficient of variation	0.58

3. The decade of stability after September 1992

Mean annual inflation rate	2.48%
Standard deviation of inflation rate	0.83
Co-efficient of variation	0.33

II. Inflation measured by RPIX, i.e., retail price index excluding mortgage interest payments

The figures below relate to the all-items retail price index until the first quarter 1976, but to RPIX thereafter. As above, the series analysed is a quarterly average of the monthly values.

1. The boom-bust period, 1971 Q3 - 1992 Q3

Mean annual inflation rate	9.61%
Standard deviation of inflation rate	5.66
Co-efficient of variation	0.59

2. The decade of stability after September 1992

Mean annual inflation rate	2.57%
Standard deviation of inflation rate	0.41
Co-efficient of variation	0.16

Sources: National Statistics website, and calculations by author and Mr. Richard Wild.

their volatility. But the contrast between the UK's macro-economic performance before and after September 1992, between the post-ERM decade and the two previous periods of stop-go and boom-bust, is so obvious, easily quantified and clear as to make superfluous any further discussion of the statistical niceties. It is time to move on to the more interesting and difficult question of explanation. Why was the UK economy so much more stable after September 1992 than before?

Explaining the improvement

Budd's explanation focusses on institutions

Budd's answer in his lecture was institutional. In his view the explanation for the greater stability was to be sought in the design of the system, with "the establishment of a clearly-defined task", "the structure of the Committee" and "the requirement for transparency in the decision-taking process". The clearly-defined nature of the task was readily elucidated. The task was technical, not political; and it was to meet the inflation target, with no distractions on unemployment, growth or the exchange rate. (Of course, unemployment, growth and the exchange rate all mattered, but there were no explicit objectives for any of them.) Transparency was important, because there would be "no hiding place". In contrast to the Treasury-dominated and largely secret system of decision-taking before 1992, policy-makers' views and voting records would move into the public domain. If they were wrong, it would be their fault and not that of any one else. In short, the big changes in the system of decision-taking after 1992 were that policy became focussed on one and only one objective, and that the people involved were made fully accountable for mistakes.

Budd did not regard election of Labour Government in 1997 as a major break

Budd did not see the change in government in 1997 as a major break. The Treasury Panel of "wise men" which started business in early 1993 was not a policy-taking body, but all its deliberations were on the record and it therefore played a role in introducing transparency to policy advice. In 1993 the Chancellor of the Exchequer, Mr. Kenneth Clarke, announced that the minutes of the regular meetings between him and the Governor would be published, and Budd's lecture saw these meetings as foreshadowing the more complete transfer of power to the Bank in 1997. The Bank of England's *Inflation Reports* also pre-dated operational independence in 1997, and are evidently considered by Budd to have had an influence on decision-taking between 1993 and 1997. (The *Inflation Reports* informed the Governor's position in his meetings with the Chancellor.) So, when the Monetary Policy Committee was founded, it continued "an established system". (6)

Budd also highlighted benefits of decision-taking by economists rather than non-economists

Institutions are vital, but an emphasis on a change in institutional structures is surely an incomplete way to explain the radical improvement in policy-making that seems to have occurred. It is also necessary to discuss policy-makers' beliefs and attitudes. The first 45 years of the post-war period were marked by constant intellectual warfare between different tribes of British economists. Indeed, disagreement is popularly seen as a hallmark of modern economics and generates several standard jokes about the profession. But one theme of Budd's lecture was that the excellence of the decisions taken after 1992 reflected the domination of the decision-taking process by economists. This would make sense only if economists shared a consensus view on the determination of inflation, a view that was well-known and relatively

Table 3 Measures of interest volatility in three post-war periods

The figures below relate to the quarterly average of the Treasury bill rate.

1. *The stop-go period, 1945 Q3 - 1971 Q2*

Mean interest rate	3.72%
Standard deviation of interest rate	2.36
Co-efficient of variation	0.63

2. *The boom-bust period, 1971 Q3 - 1992 Q3*

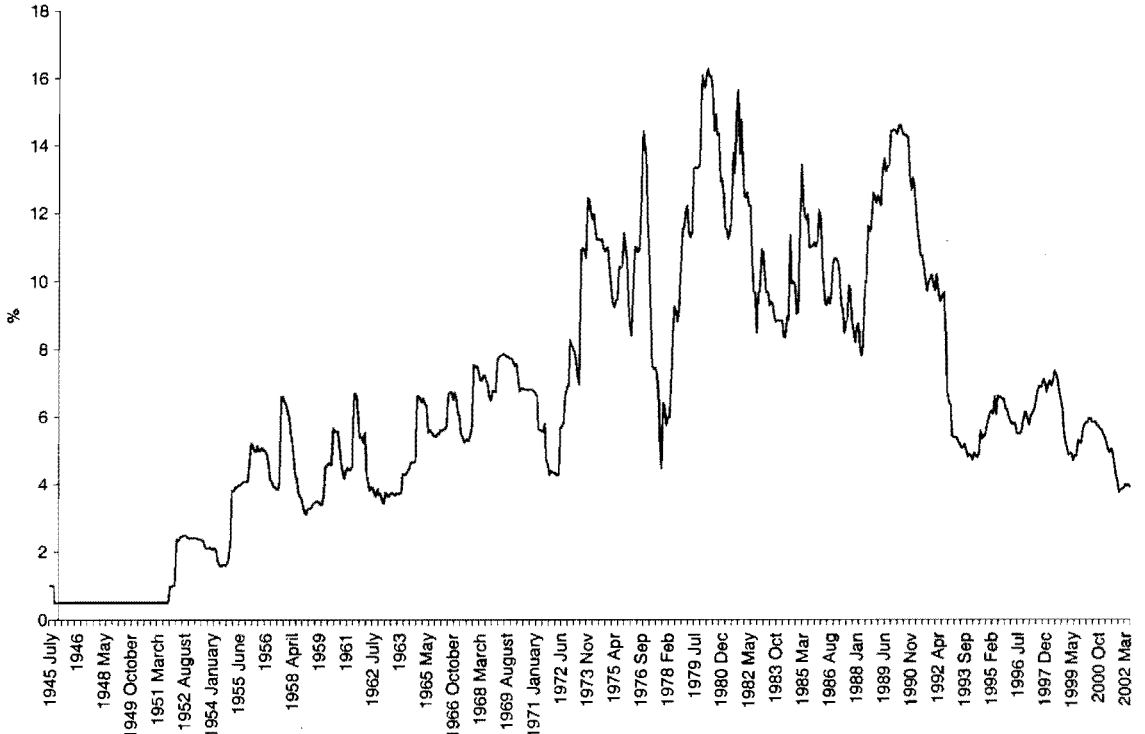
Mean interest rate	10.55%
Standard deviation of interest rate	2.65
Co-efficient of variation	0.25

3. *The decade of stability after September 1992*

Mean interest rate	5.83%
Standard deviation of interest rate	0.70
Co-efficient of variation	0.12

Sources: National Statistics website, and calculations by author and Mr. Richard Wild.

Chart shows monthly values of Treasury bill rate



uncontroversial to them but not familiar to people from other walks of life. (Budd did not say so in as many words, but his lecture implied that politicians, bankers, civil servants, trade unionists and so on should be kept out of monetary policy.)

But, then, what was it that economists agreed about in these years?

The question becomes, "what was the consensus about the determination of inflation that was so extensively shared by the Treasury Panel before 1997, the Monetary Policy Committee after 1997, and by the large numbers of other economist advisers and commentators both within and outside the official machine in these years?". It is important to be clear that the policy achievements of the 1990s were not due to the adoption of the most well-publicised prescriptions of the most well-known schools of thought. In particular, the simpler versions of neither "Keynesianism" nor "monetarism" were relevant.

Was post-1992 stability due to Keynesianism?

A discussion of these two tribal belief-systems is needed, to clear away some of the totem poles in macro-economic debate. An influential view in Britain until the 1980s is that Keynesianism – in some shape or form – was responsible for the stability and prosperity of the immediate post-war decades. According to Shirley (now Lady) Williams writing in 1981, after the Second World War "government planning, public finance and government intervention were used to bring about and sustain full employment and economic growth; deficit spending maintained demand during periods of recession...The lessons of Maynard Keynes, set out in *The General Theory of Employment, Interest and Money*, had been devotedly learned". (7) Wynne Godley, a member of the Treasury Panel in the early 1990s, had written in 1983 that the 25 years after 1945 seemed at the time "a period of remarkable success with regard to all the main objectives of macro-economic policy" and that this post-war prosperity was "the consequence of the adoption by governments of 'Keynesian' policies". (8)

Keynesianism credited with relative stability of immediate post-war decades

and was a central influence on left-wing enthusiasm for government ownership in that period

This view of the beneficence of the so-called "Keynesian revolution" is heard less often nowadays, but it continues to lurk behind many debates about the state and the economy. It needs to be remembered that Keynesianism, in the version adopted by the British centre left in the post-war period, is a political doctrine about the optimal size of the state sector as well as a set of economic prescriptions about how to maintain full employment. In the final chapter of *The General Theory*, Keynes claimed that "a somewhat comprehensive socialisation of investment will prove the only means of securing an approximation to full employment". (9) This argument was part of the case for nationalisation in the late 1940s and remained central to the defence of the mixed economy until the 1980s. As Crosland recognised in *The Future of Socialism* (first published in 1956), "Many liberal-minded people, who were instinctively 'socialist' in the 1930s..., have now concluded that 'Keynes-plus-modified-capitalism-plus-Welfare-State' works perfectly well." (10)

The current research exercise throws a different and much more sceptical light on the macro-economic outcomes of the 1950s and 1960s. Crucially, the UK economy was far more stable in the 1990s than in the heyday of the Keynesian revolution. It has been shown that in the post-ERM decade the standard deviation and co-efficient

But the post-1992 decade far more stable than the decades of the supposed "Keynesian revolution"

of variation of output growth were lower than in the years from 1945 to 1971, and it remained more stable when the troublesome 1945 – 47 period was excluded from the comparison. Further, inflation and interest rates were far less volatile in the 1990s than in the immediate post-war decades. Ironically, the inflation rate was the only variable which was not markedly worse during the period of the supposed Keynesian revolution. (Over the 26 years to 1971 it was just under 4%. Many *soi-disant* Keynesians profess themselves indifferent to inflation. (11))

and its greater stability owed nothing to Keynesianism

But it is implausible to claim that the UK's policies were still Keynesian in the 1990s. They certainly were not Keynesian in the Williams' sense of government planning and intervention. On the contrary, the Conservative Government from 1979 to 1997 was more committed to the free market than any of its post-war predecessors. In fact, public ownership was in retreat in the early 1990s, with the main energy utilities being privatised and their markets liberalised. But policies were not even Keynesian in the more humdrum sense that government spending and taxation were being varied to influence employment. Instead fiscal policy was subordinate to the principle that the budget should be balanced over the course of the business cycle. The long-term aim of the budget-balance rule was to prevent excessive growth of the public debt. Not one of the many policy statements from the Treasury in the 1990s envisaged an employment-promoting role for fiscal policy. (12)

Was post-1992 stability due to monetarism?

So it was not Keynesianism that delivered the macro-economic stability of the post-ERM decade. What about monetarism? Lamont's announcement of the inflation target in October 1992 was remarkably wide-ranging in its references to variables that policy-makers would have to follow in future. It did mention monitoring ranges for money supply growth, including the concept of "broad money" which Mr. Nigel (later Lord) Lawson had stopped targeting in 1985. But this was a charade. The Treasury itself pretended to be interested in narrow money (particularly as measured by the narrowest possible money measure, M0), but had ignored an overshoot on M0 in the late 1980s, and its officials were not worried about broad money. (13) Most members of the Treasury Panel did not want a discussion of monetary developments to figure in their meetings. It was only after a strong protest by one member of the Panel that a section on money was put on the agenda. (14) From the outset the Bank of England's *Inflation Report* did include extensive material on the monetary aggregates, but the Bank's view on the transmission mechanism of monetary policy pays scant attention to the quantity of money on any definition. (15)

References to monetary aggregates in official statements were ritual in nature and had no substance

Indeed, when the Bank was given operational independence in 1997, it ended the monitoring range for broad money which had been in place from 1992. According to a recent article in the Bank's *Quarterly Bulletin*, the justification is that "[o]ver policy-relevant time horizons, the monetary aggregates will be influenced by many factors, such as cyclical shifts in the demand for money and credit, and innovations in financial structure, products and regulation." (16) The Bank's research work on money and the economy has become compendious, but the message is nearly always eclectic and inconclusive. Most Bank officials - and the majority of members of the

Monetary Policy Committee since its formation - have been, and remain, opposed to basing interest-rate decisions on the money aggregates.

Money-target monetarism not relevant to post-1992 achievement

So monetarism - in the sense of money-target monetarism - had almost no relevance to policy-making in the decade after 1992. Like Keynesianism, it cannot take any credit for the improved performance. However, monetarism - like Keynesianism - encompasses a wide range of attitudes and beliefs. While most British economists have never been enthusiasts for money supply targets, a clear professional consensus emerged in the 1980s and 1990s that one element in monetarist thinking was right. This was the view that there is no long-run trade-off between, on the one hand, output and employment and, on the other, inflation. Indeed, the emergence of this consensus was critical to the adoption of a policy-making framework focussed on an inflation target. The rationale for the focus on inflation, and so for the demotion of full employment as a policy objective, had first been presented in the late 1960s. The seminal analysis was given by Milton Friedman, the leader of monetarist thought, in his presidential address to the American Economic Association in 1967. (17)

Friedman's argument about the natural rate of unemployment and inflation

The heart of Friedman's argument was that economic agents were rational. In particular, they could not be deceived by inflationary policy-making. Crucially, pay bargains would be affected by inflationary expectations. If unemployment fell beneath a particular rate (which he called "the natural rate"), workers and employers would agree a pay rise large enough not only to eliminate the excess demand for labour, but also to compensate for expected inflation. The pay rise would therefore add to next year's inflation and so aggravate inflation expectations further. Next year's pay rise would have to be higher yet again. The logical conclusion was that - while unemployment stayed beneath the natural rate - pay bargains and inflation would rise indefinitely. The only rate of unemployment consistent with stable inflation was the natural rate at which the demand for labour was in balance with the supply.

and the "accelerationist hypothesis"

Government attempts to drive unemployment beneath the natural rate would lead not to high and stable inflation, but to hyper-inflation. Friedman was evasive about certain aspects of his argument. For example, he denied that central banks could measure the natural rate, even though one of his most famous early papers had emphasised the need to develop theories that were testable against data. (18) Other economists were not so cautious. It is, in fact, a simple matter to prepare series for unemployment, the rate of wage increases and the change in the rate of wage increases, and to carry out some econometric tests. Despite many problems of interpretation, economists have been able to derive estimates of the natural rate and to see whether Friedman's "accelerationist hypothesis" is valid. In country after country the answer has been that - on the whole - it does fit the facts or, when there is some lack of clarity in the data, that Friedman's hypothesis is more convincing than the alternatives.

But labour market institutions - like financial regulation - are evolving all the time. To base monetary policy on an unemployment rate would be not only politically contentious, but also technically difficult. The key to applying Friedman's doctrine

Generalisation of the natural-rate idea in the concept of the output gap

to policy-making was a generalization of the natural-rate idea. Instead of emphasizing that there is an unemployment rate at which inflation is stable, economists suggested that there is a level of output ("trend" or "sustainable output") at which inflation is stable. (At this level of output the demand for labour is probably in balance with the supply, i.e., unemployment is at the natural rate, but other markets and factors of production are relevant. For example, machine capacity is working at a normal utilisation level and the office vacancy rate is at a level associated with a stable rate of rent increases.) When output is above the trend level, there is said to be a positive "output gap"; when it is beneath the trend level, the output gap is negative. Friedman's insight (i.e., the absence of a long-run unemployment/inflation trade-off) is captured, more or less, by the proposition that the *change* in inflation is a positive function of the *level* of the gap.

After 1992 scope for above-trend growth without rising inflation

The implied approach to monetary policy was simple. In late 1992 the UK undoubtedly had a large negative output gap after the recession induced by the ERM. It could therefore enjoy several quarters, perhaps even a few years, of above-trend growth without any serious risk of rising inflation. (19) After a year of very strong growth in 1994 output had returned roughly to its trend level (i.e., the output gap was roughly zero) and the annual rate of RPIX inflation was about 2 1/2%. Since then monetary policy - to be understood almost wholly as changes in short-term interest rates - has been organized to keep the output gap at close to zero. According to the theory, by keeping the output gap at roughly nil, inflation should be stable. In the event, policy has been successful in keeping the output gap at close to zero and inflation has stayed remarkably steady at about 2 1/2%. Here - in essence - is the explanation for the decade of stability from 1992. (20)

Output-gap monetarism the crucial theory behind the post-1992 decade of stability

In his 'Quest for Stability' Budd acknowledged that this theory - which might be termed output-gap monetarism - had motivated the official approach to monetary policy after the UK's exit from the ERM. He noted that British governments had a long record of trying to maximize output and increase employment, and yet the result had been over-full employment, excessive inflation and macro-economic instability. But the new theory implied that the key to maintaining stability of inflation was to have "output stability"; and, in his words, "that is, in effect, what the MPC does. It seeks to keep output as close as it reasonably can to its sustainable level, since that is usually a necessary condition for inflation stability". Budd did not elaborate the point, but - if the sentences here are to be dignified with a theoretical label - output-gap monetarism seems the most fitting.

Output-gap monetarism widely adopted by central banks around the world

Output-gap monetarism is hardly complicated. Although its adoption has been particularly successful in the UK, it now provides the dominant theoretical basis for central banking around the world. It has not eliminated the need for judgement and discretion in policy-making, as there are many difficulties in estimating the output gap and projecting its future course. Nevertheless, it helps to explain why the 1990s were a stable decade not just in the UK but in many other economies too (including, crucially, the USA). The puzzle is surely why it took economists in governments and

central banks so long to find, develop and accept the key ideas. In the UK the trouble may have stemmed partly from the prestige attached to Keynesian economics, with its very different concepts and emphases, and partly from many politicians' obstinate enthusiasm for basing monetary policy on the exchange rate. (21)

But it has not settled all the debates

But the role of the natural rate of unemployment and the output gap in monetarist economics is also a little uncomfortable. There is no doubt that output-gap monetarism is derived from the accelerationist hypothesis, but Friedman himself failed to see the potential of his 1967 lecture for policy-making. Instead of advertising the positive agenda for stabilisation implied by his ideas, he made a a needlessly cautious remark about the difficulty of measuring the natural rate, and delivered a vital but entirely negative comment on full employment policies. Further, the apparent triumph of output-gap monetarism does not mean the debates are over. There are still too many muddles about the role of the money in the determination of demand and output, and continued disagreement about the tasks of the central bank and the status of different monetary aggregates in policy-making.

Notes

(1) Sir Alan Budd 'The quest for stability', Julian Hodge Institute of Applied Macroeconomics annual lecture, Cardiff, annual lecture given on 25th April 2002. (Printed as a pamphlet jointly by Cardiff Business School and Julian Hodge Bank.) The lecture was republished in the autumn 2002 issue of *World Economics.*

(2) It evolved further in the 1980s and 1990s. On 20th August 1981 the Bank of England stopped announcing MLR on a regular basis, while reserving the power to do so in special circumstances. In the 1990s the Bank's operations increasingly followed the European model of repurchase agreements with the banks and its "repo rate" became crucial in determining other interest rates.

(3) For further details on the sources of the statistical series, see a note prepared by Mr. Richard Wild of Cardiff Business School.

(4) As the mean value of the GDP growth rate was similar in the three periods, the co-efficient of variations does provide a valid measure of instability, but perhaps it does not add much to the standard deviation. By contrast, a high co-efficient of variation of the inflation rate and the rate of interest is not generally a sign of bad economic policy. As policy is successful if it keeps inflation (and nominal interest rates) low, an implication is that – for any given standard deviation – the better policy is in lowering inflation and interest rates, the higher is the co-efficient of variation. So a high co-efficient of variation (i.e., "more instability") reflects success in keeping inflation under control, which is silly.

(5) See p. 12, and footnotes (7), (8) and (10), below for the belief that the first 25 years were unusually stable because of Keynesian policies.

(6) Budd's emphasis on the continuity of policy from 1992 contrasts with claims of a sharp discontinuity in 1997 in *Reforming Britain's Economic and Financial Policy*, a collection of Treasury papers and speeches edited by Ed Balls and Gus O' Donnell. In the foreword to this book, Mr. Gordon Brown, the Chancellor of the Exchequer, said, "My first words from the Treasury ...were to reaffirm for this government our commitment to the goal set out in 1944 of high and stable levels of growth and employment, and to state that from 1997 onwards the attainment of this goal would require a wholly new monetary and fiscal framework." A few sentences later Brown talked of "a new paradigm" in 1997. (Ed Balls and Gus O' Donnell [eds.] *Reforming Britain's Economic and Financial Policy* [Basingstoke and New York: Palgrave, 2002], p. x.)

(7) Shirley Williams *Politics is for People* (Harmondsworth, Middlesex: Penguin, 1981), p. 17.

(8) Wynne Godley and Francis Cripps *Macroeconomics* (Oxford: Oxford University Press, also in Fontana paperback, 1983), pp. 13 – 14.

(9) John Maynard Keynes *The General Theory* (London: Macmillan, paperback edition 1964, originally published 1936), p. 378.

(10) C. A. R. (Richard) Crosland *The Future of Socialism* (New York: Schocken paperback edition, 1963), p. 79.

(11) See, for example, Hahn's comment in the 1981 Mitsui lectures that "inflation as such is not an outstanding evil, nor do I believe it to be costly in the sense that economists use that term". (Frank Hahn *Money and Inflation* [Oxford: Blackwell, 1982], p. 106.)

(12) The September 2002 issue of *Euromoney* magazine included a quotation (p. 67) from Joseph Stiglitz, the Nobel-prize-winning economist, to the effect that "Gordon Brown is a new Keynesian". The September 2002 issue of *Institutional Investor* magazine carried an interview with Brown where he said, "We've reduced [public] debt very substantially in Britain, from 44% of national income to 30%...So we are fiscal disciplinarians." If Keynesianism is to be equated with fiscal discipline, then Picasso's *Guernica* was motivated by T. S. Eliot's poetry and Maoism was heavily indebted to John Stuart Mill.

(13) In evidence to a European Community committee on 15th February 1989, Sir Geoffrey Littler, who had retired as Second Permanent Secretary to the Treasury in 1988, said that, "if you look back at British monetary policy during the past 15 months, something has gone slightly wrong, monetary expansion has been faster than intended or wanted". This must be a reference to M0, which overshot its target in 1988. At the time of Littler's evidence broad money growth had been excessive for much longer than 15 months. Littler – undoubtedly reflecting views common in the Treasury – was not in the least bothered by the 15% - 20% growth rates of broad money seen over the previous three years.

(14) At its first meeting in early 1993 five out of the seven members of the Treasury Panel did not want its reports to include a section on monetary developments. The author of this *Review* wrote two Open Letters to the other members of the Panel, urging that a section on money was needed. (See the March and April 1993 issues of the *Gerrard & National Monthly Economic Review*.) Thereafter a section on monetary developments did become part of the Treasury Panel's agenda.

(15) In April 1999 the Monetary Policy Committee delivered a note on 'The transmission mechanism of monetary policy' to the Treasury Committee of the House of Commons and the House of Lord Select Committee on the Monetary Policy Committee. The note was 12 pages long and continues to be available on the Bank of England's website. Towards the end of p. 10 it noted, "So far, we have discussed how monetary policy changes affect output and inflation, with barely a mention of the quantity of money. (The entire discussion has been about the price of borrowing and lending money, i.e., the interest rate.)".

(16) Andrew Hauser and Andrew Brigden 'Money and credit in an inflation-targeting regime', pp. 299 – 307, autumn 2002 issue, *Bank of England Quarterly Bulletin* (London: Bank of England, 2002). The quotation is from p. 299.

(17) The address was republished in Milton Friedman *The Optimum Quantity of Money* (London and Basingstoke: Macmillan, 1969), pp. 95 – 110.

(18) In a 1952 essay 'The methodology of positive economics' Friedman argued that economic theory generated "a body of generalizations" whose validity stemmed from "the accuracy of their predictions". ('The methodology of positive economics', pp. 3 – 43, *Essays in Positive Economics* [Chicago and London: University of Chicago Press, 1953].)

(19) "...[A]bove-trend growth can be reconciled for several years with low inflation." (Submission by Professor Tim Congdon of Lombard Street Research in the February 1993 report of the Panel of Independent Forecasters [London: H.M. Treasury, 1993], p. 25.)

(20) See also pp.9-11 of the June 1999 issue of Lombard Street Research's *Monthly Economic Review*, with Lord Burns' lecture on Lombard Street Research's 10th birthday. (The lecture was called 'The new consensus on macroeconomic policy: will it prove temporary or permanent?'.)

(21) Nigel Lawson *The View from No. 11* (London and New York: Bantam Press, 1992), *passim*.