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Contents

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Economic theory vs. the foreign exchange markets

Over-supply pushes the price up!

The monetary theory of the exchange rate

Economics has various theories of exchange rate determination. The main monetary theory is simple: the exchange rate is the price between two currencies and, like any other price, it is determined by supply and demand. So, if the supply of one currency increases relative to the supply of another (i.e., if one country has a faster rate of money supply growth than another), and if the relative demands to hold the two countries' money supplies are unchanged, the price of the over-supplied currency falls. More concisely, excessive monetary growth causes exchange rate depreciation. The evidence from long runs of data is overwhelming in support of this principle.

may be difficult to reconcile in the short run with effects of interest rate changes

But in the short run all sorts of weird things happen. Another approach to analysing the exchange rate notes that the difference between the spot and forward exchange rates is equal to the interest rate differential between the currencies concerned. Assume that the spot rate is stable, being determined by fundamentals which the markets fully understand. Then an increase in interest rates in a country with relatively high interest rates must cause the forward exchange rate to appreciate. This exchange rate appreciation comes through even if the interest rate increase is an official response to excessive monetary growth. Indeed, as foreign exchange markets see money growth starting to accelerate, speculators may pile into the currency affected, because they anticipate higher interest rates. On the face of it, the over-supply of a currency leads - at least for a time - to its appreciation!

High money growth in the UK ought to be accompanied by *fall*, not *rise*, in sterling

This is a strange story. But the current behaviour of the pound is most peculiar. As the survey of international monetary trends in the accompanying *Research paper* shows, monetary growth in the UK is well ahead of that in its neighbours and is in fact the highest in the G7. British monetary policy is deviant and irresponsible, just as it has been on so many occasions in the past. It will lead over the medium term to higher inflation here than in other industrial countries. But the pound has been going up! One possible explanation is that international investors expect the UK to participate more fully in European economic and monetary union if the Labour Party comes to power. (See the comment "Is the ERM a barbarous relic?" in the January issue of this *Review*.) They therefore envisage a profitable convergence play with the pound and sterling assets, just as there was in 1996 with the lira and the peseta. Perhaps they will be right in the short run, but this merely emphasizes the folly of fixed Europe's exchange rates. If the UK rejoins the ERM in late 1997, sterling interest rates will be unable to rise, even though the pace of domestic credit expansion (at virtually 10% a year) is already incompatible with the inflation target of under 2 1/2%.

Professor Tim Congdon — 6th February, 1997

Summary of paper on

"Global money points to above-trend growth in world output in 1997"

Purpose of the paper

A reasonable generalisation, based on past experience in a large number of countries, is that changes in real broad money precede (or are associated with) changes in output two or three quarters later (concurrently). The purpose of the paper - which is similar in format to research papers in the *Monthly Economic Review* of January 1993, January 1994, January 1995 and February 1996 - is to assess the prospects for the world economy in 1997 and early 1998, in the light of this relationship.

Main points

* **Real broad money growth for the G7 was similar last year to 1995, which was sharply higher than in previous years in the 1990s. Above-trend output growth is likely for the world economy this year and, probably, in 1998.**

* **The upturn in monetary growth has been most obvious in the USA (see p. 6) and the UK (p. 11), while money growth remains sluggish in Japan (p. 7) and, by past standards, has been surprisingly low in Italy (p. 10).**

* **The behaviour of asset prices in the different countries has mirrored these contrasting monetary trends, with the US and UK stock markets at all-time peaks and the Japanese stock market struggling to remain on an even keel.**

* **The various countries' prospects for the growth of demand and output in 1997 and 1998 reflect the different behaviours of the money stock and asset prices. Above-trend growth is likely to be concentrated in the so-called "Anglo-Saxon economies" (i.e., USA, UK, Canada), but it will spread to the rest of the world as these economies suffer deteriorating net exports (i.e., wider trade gaps).**

* **By the standards of the early and mid-1990s, the world inflation outlook for 1998 and 1999 is mediocre.**

This paper was prepared by Professor Tim Congdon, with help in the preparation of the charts from Mr. Gabriel Stein.

Global money points to above-trend growth in world output in 1997

Growth in North America and the UK to be higher than expected this year

Increases in real money and real output are related

A key principle of macroeconomic theory is that in the long run the demand to hold real money balances (i.e., the level of nominal money balances deflated by a price index) depends only on real variables, of which real income (i.e., nominal incomes similarly deflated by a price index) is crucial. For the economy as a whole the level and change in real national income ought therefore to be related to the level and change in a measure of the real money stock. As has been explained in previous *Monthly Economic Reviews* (particularly in the research paper in the August 1992 issue), a causal relationship from real money to real output is viable only if the measure of money under consideration is a broad one (i.e., if it includes all - or virtually all - deposits which can be used to make payments).

as also, more loosely, are increases in nominal money and the price level

The relationships between real broad money and real output, and also between nominal broad money and inflation, were surveyed for the leading industrial economies in this *Review* in January 1993, January 1994, January 1995 and February 1996. The current issue of the *Review* presents the same analysis for 1997. A striking feature of the charts on the following pages is that the relationships between short-run fluctuations in real money and real output are generally better than those between nominal money and inflation. Inflation may be a "monetary phenomenon", as Friedman has claimed, but the relationship is rather loose and medium-term in nature.

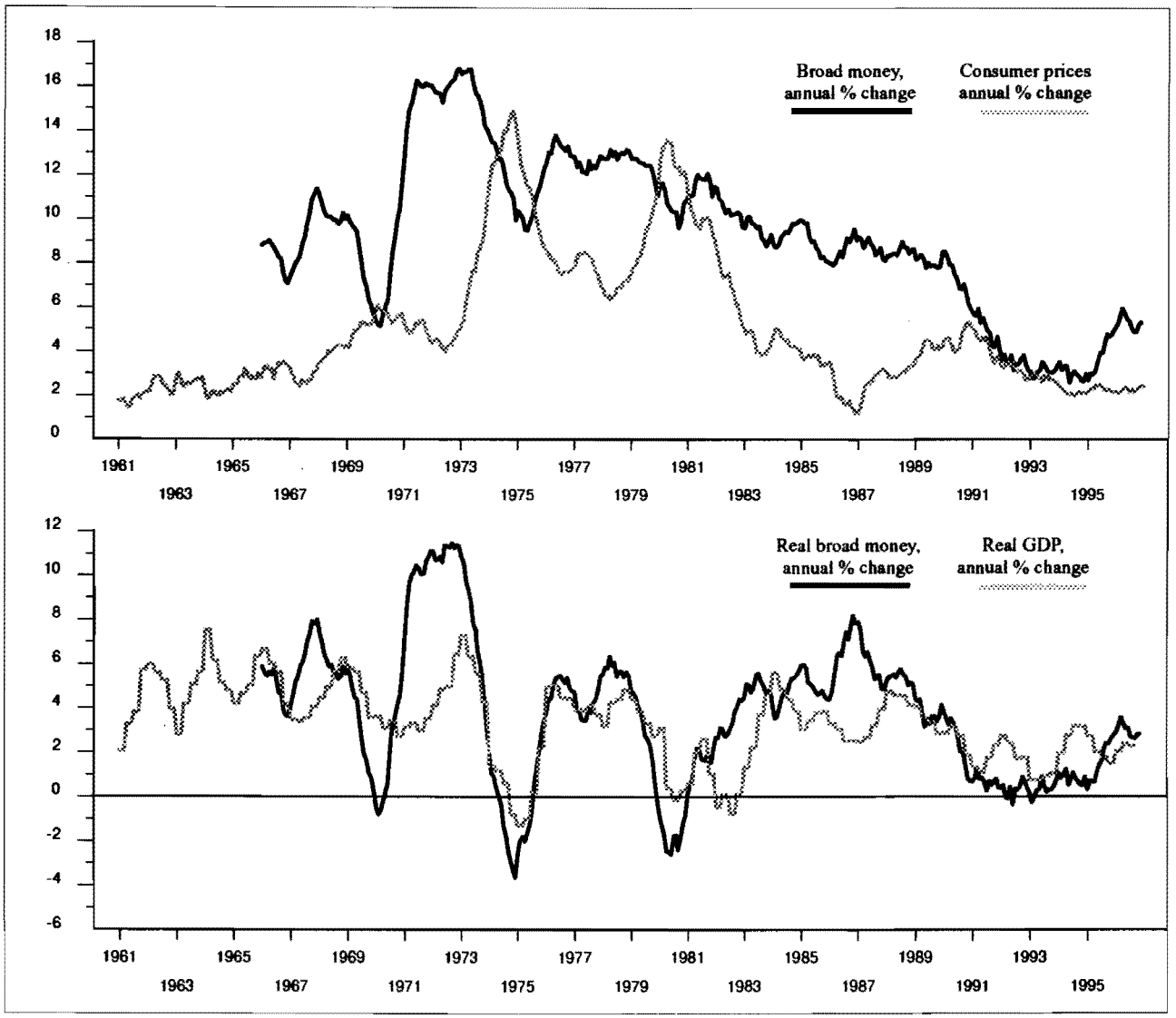
1997 to see above-trend growth in world output

What are the implications of current global money growth for the world output in 1997, and for inflation in 1998 and 1999? The first point (see p. 4) is that the last two years have seen a clear acceleration in real money growth across the G7, which suggests that 1997 (and probably 1998) will enjoy above-trend growth in output. The sharpness of the upturn in real money growth since early 1995 is so well-defined that the conclusion can be stated with confidence. There is a clear contrast with the forecast given by the Organization of Economic Cooperation and Development in its December 1995 *Economic Outlook* of 2.6% growth in the industrial world this year, which would be roughly in line with trend. In particular, rather high money growth in the USA, coupled with the extraordinary buoyancy of asset prices, hints at more rapid growth in North American demand and output this year than in 1995 and 1996. (See p. 5.)

and disappointing inflation, in 1998 and 1999

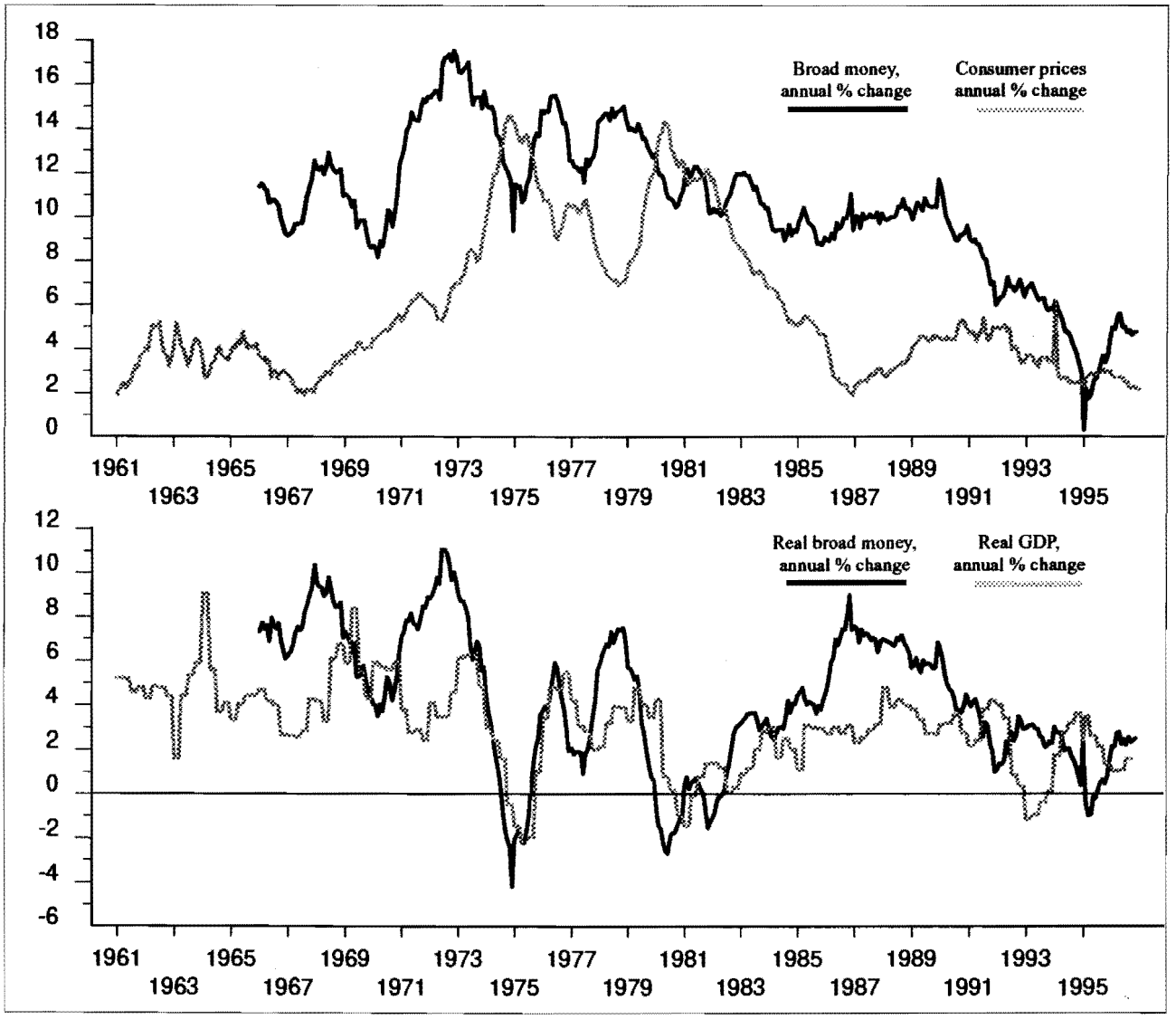
Secondly, the long-term decline in global money growth which was in place from the mid-1970s to the early 1990s has been broken. On this basis world inflation will rise in 1998 and 1999. It is too early to say whether the interruption of secular disinflation is merely cyclical or will prove persistent. At any rate, the message for bond markets - which have had such a wonderful time since the early 1980s - is worrying.

Group of Seven



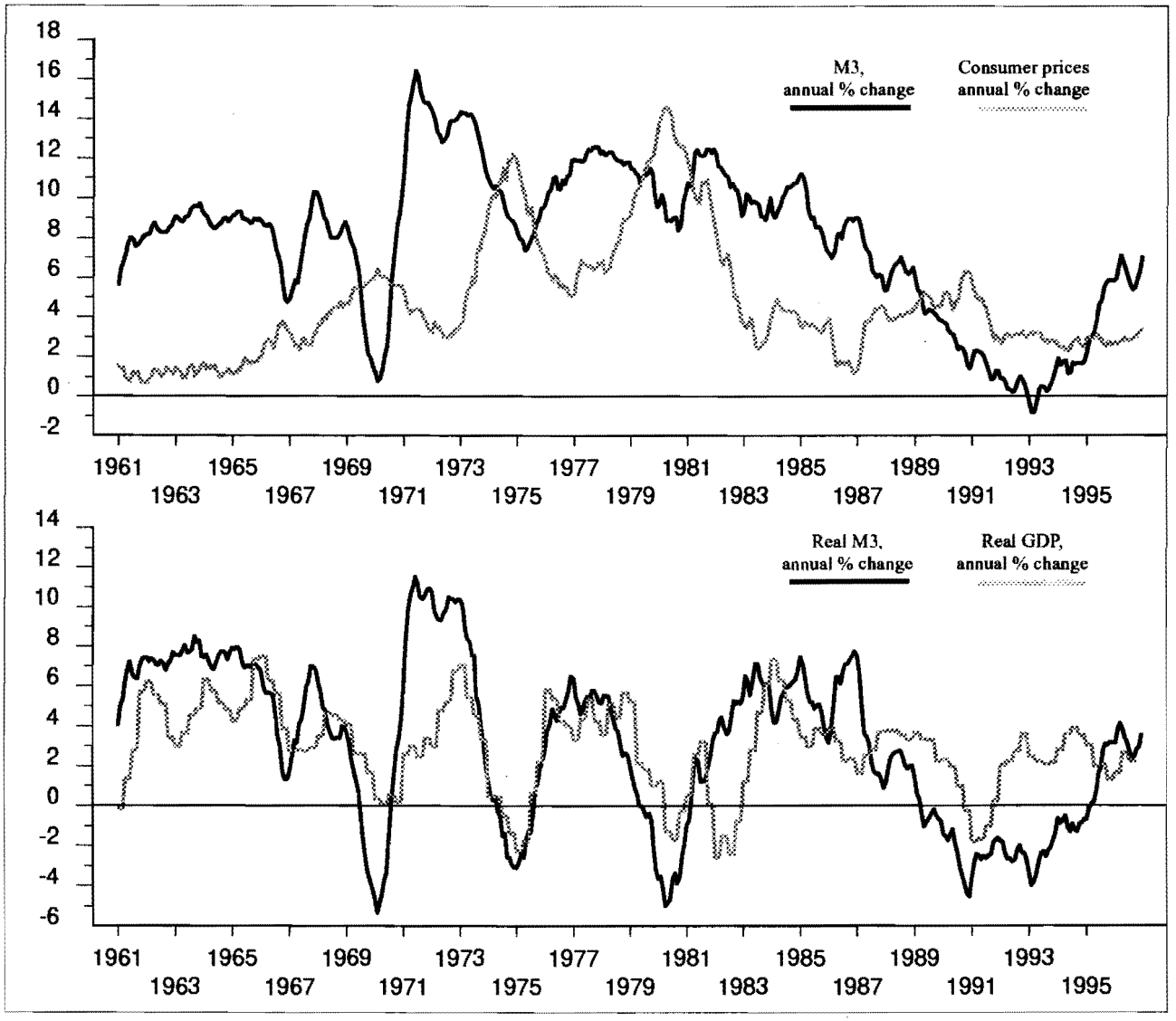
Money supply growth decelerated in the industrial world from the mid-1970s until the early 1990s. Cyclical fluctuations around the trend occurred, but - as the chart shows - the downward direction of the trend itself was unmistakable. The long-term fall in money growth reflected governments' and central bank's commitment to curb inflation. (At a deeper level, it was due to their acceptance of the argument that inflation is caused by excessive monetary growth ("monetarism").) But in early 1995 the pattern began to change. Nominal money growth in the G7 increased from under 4% a year, where it had been since 1991, to about 6% a year. This continues to the present. With inflation held down by ample spare capacity and slack labour markets, the acceleration in real money growth is even more well-marked. One key message is that above-trend growth in world output is likely in 1997.

Europe - Major Four Economies



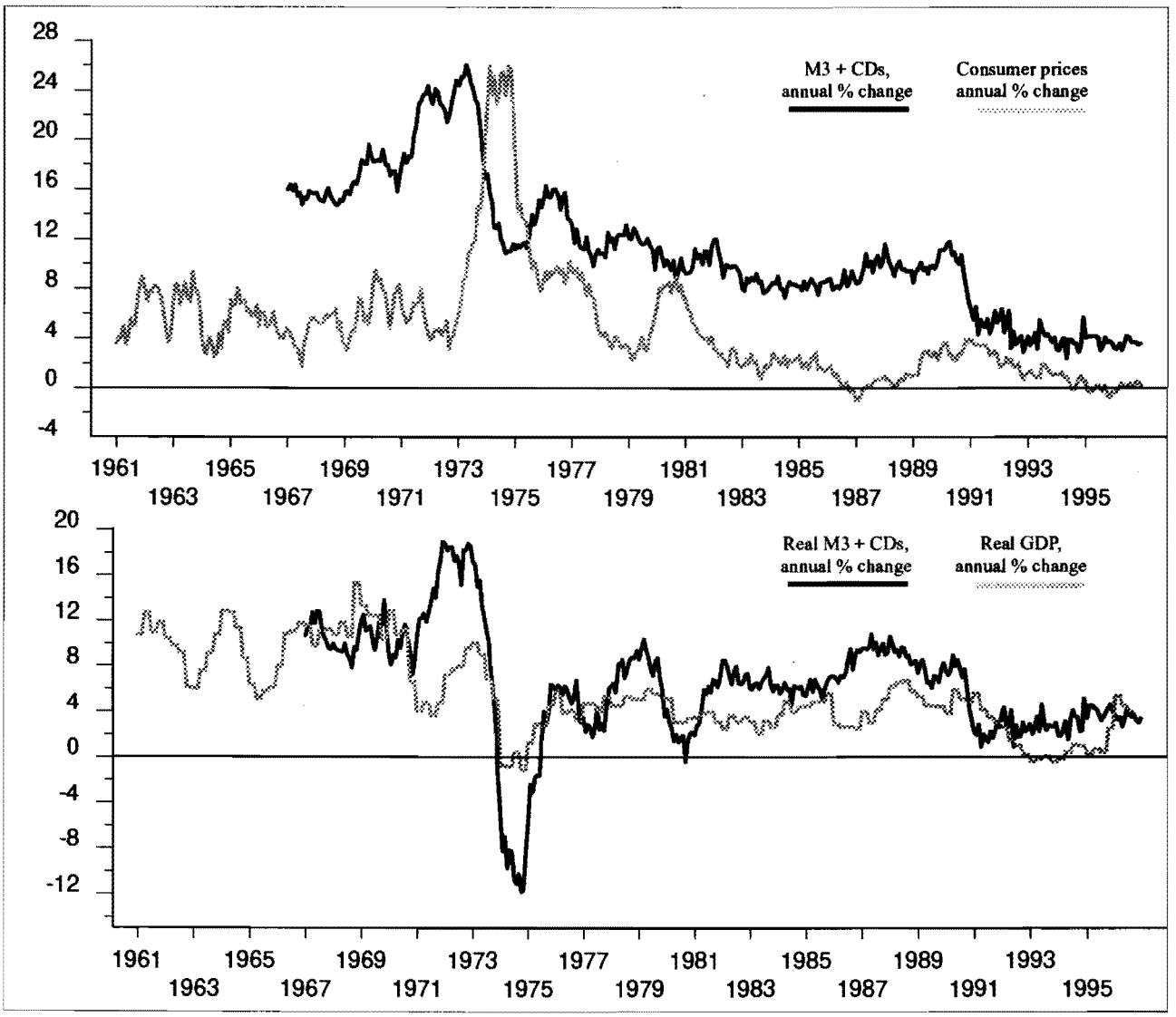
Monetary growth in Europe has recovered, implying an easing of the balance-sheet strains and weak asset prices (as exemplified by the French and Italian commercial property markets) which have held back growth in the last few years. But a marked divergence has opened up between money growth in the three large continental European countries (Germany, France and Italy) and the UK. In the continental European countries the underlying rates of money growth are about 5%, perhaps even a little bit less. (Precise figures are difficult to derive, because every country has been affected by institutional change and shifts of funds between balances inside and outside the money stock definitions. See pp. 8 - 10.) By contrast, money growth in the UK is running at almost 10% a year. As a result, economic activity is cyclically stronger in the UK than in its neighbours, but the inflation outlook is also worse.

United States



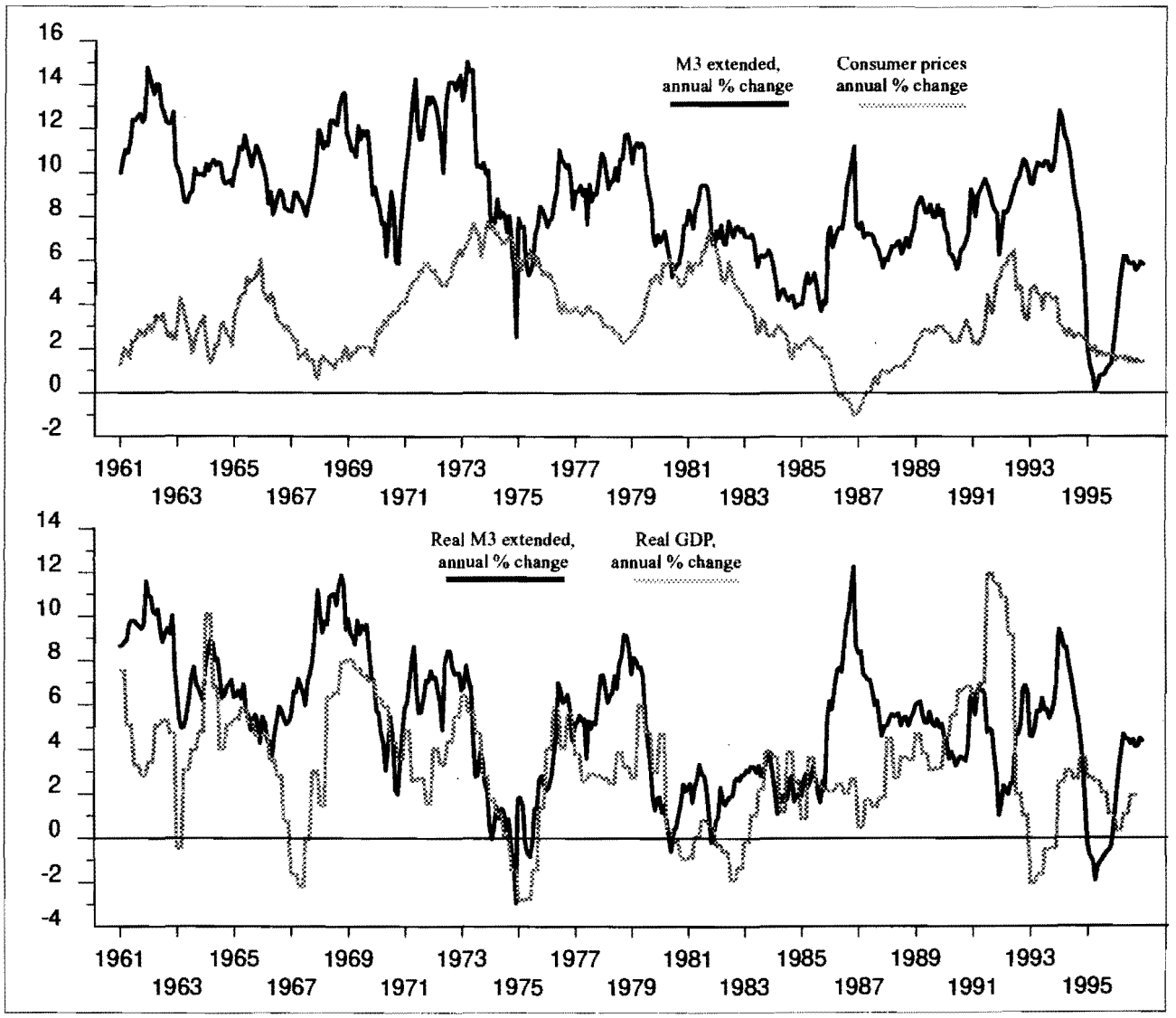
US monetary growth accelerated in 1995. The banking system, which had overcome the capital adequacy strains of the early 1990s, was keen to add assets. Meanwhile corporate America embarked on a wave of corporate activity, including a record level of mergers. As these often involved bank finance, the growth rate of bank credit increased, and so also did the growth rates of the M2 and M3 measures of money. Wholesale money balances (of the type which appear in M3, but not in M2) have been climbing at double-digit annual rates in recent quarters. (Liquid assets held by US non- financial companies went up by 21.5% in the year to the end of the third quarter, according to a story in *Business Week*, 10th February.) Here is the monetary explanation for the current buoyancy of US asset prices and an argument for expecting above- trend growth in demand and output in 1997.

Japan



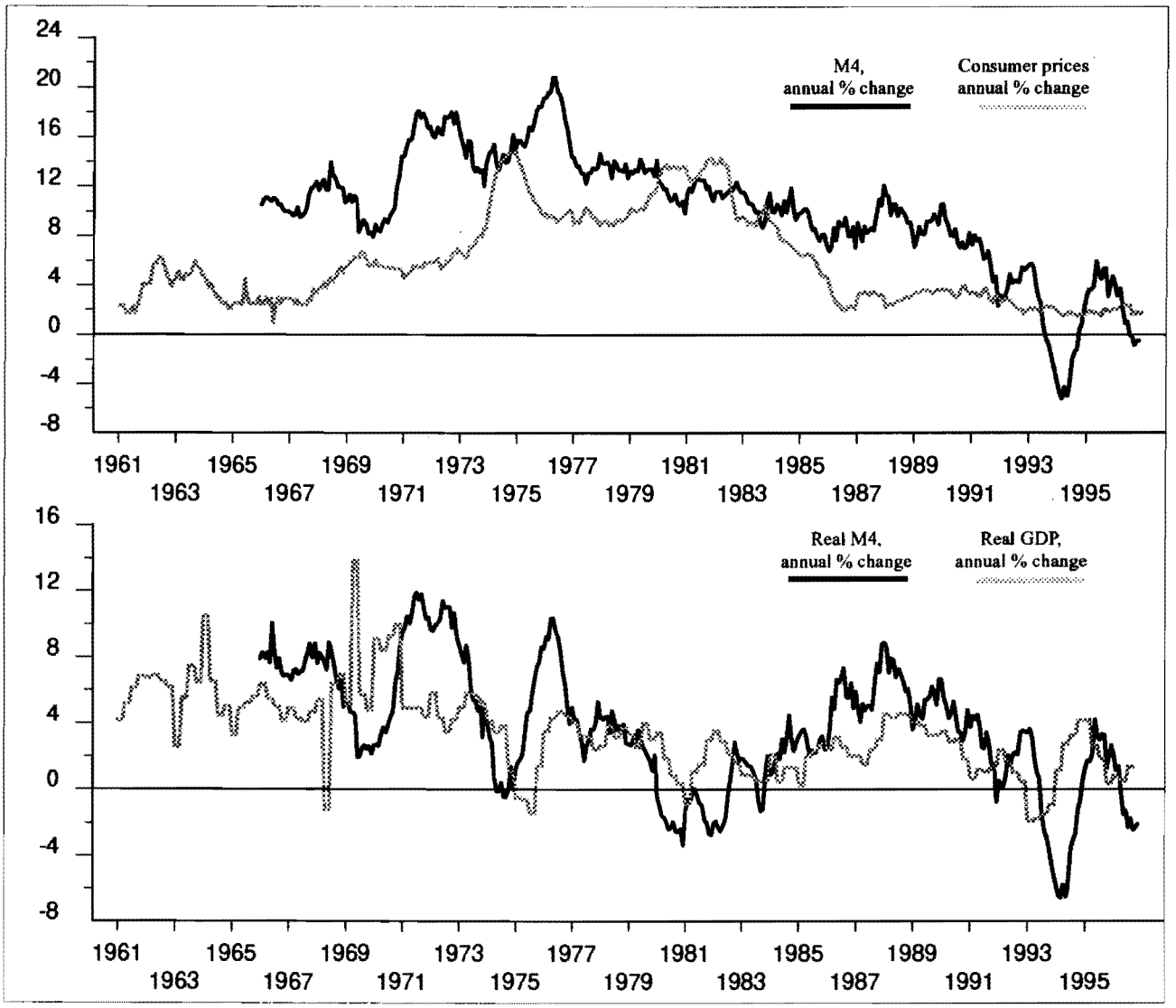
Japanese monetary growth, which had been over 10% a year in the late 1980s, collapsed in 1990 and 1991 to under 5% a year, where it has remained. Whereas the 10%-a-year money growth rate was associated with the "bubble economy" (with surging asset prices), the slower money growth in the 1990s has been accompanied by a prolonged squeeze on asset prices and sluggish domestic spending. No immediate break from this pattern seems likely. As banks are expanding their loan books by only 1% or 2% a year, faster money growth depends on capital inflows from abroad and/or monetization of the budget deficit. In 1995 the increase in banks' foreign assets was significant and helped to keep the annual rate of broad money growth at over 3%. But capital outflows have reduced money growth in the last few months. At any rate, the money stock is not contracting.

Germany



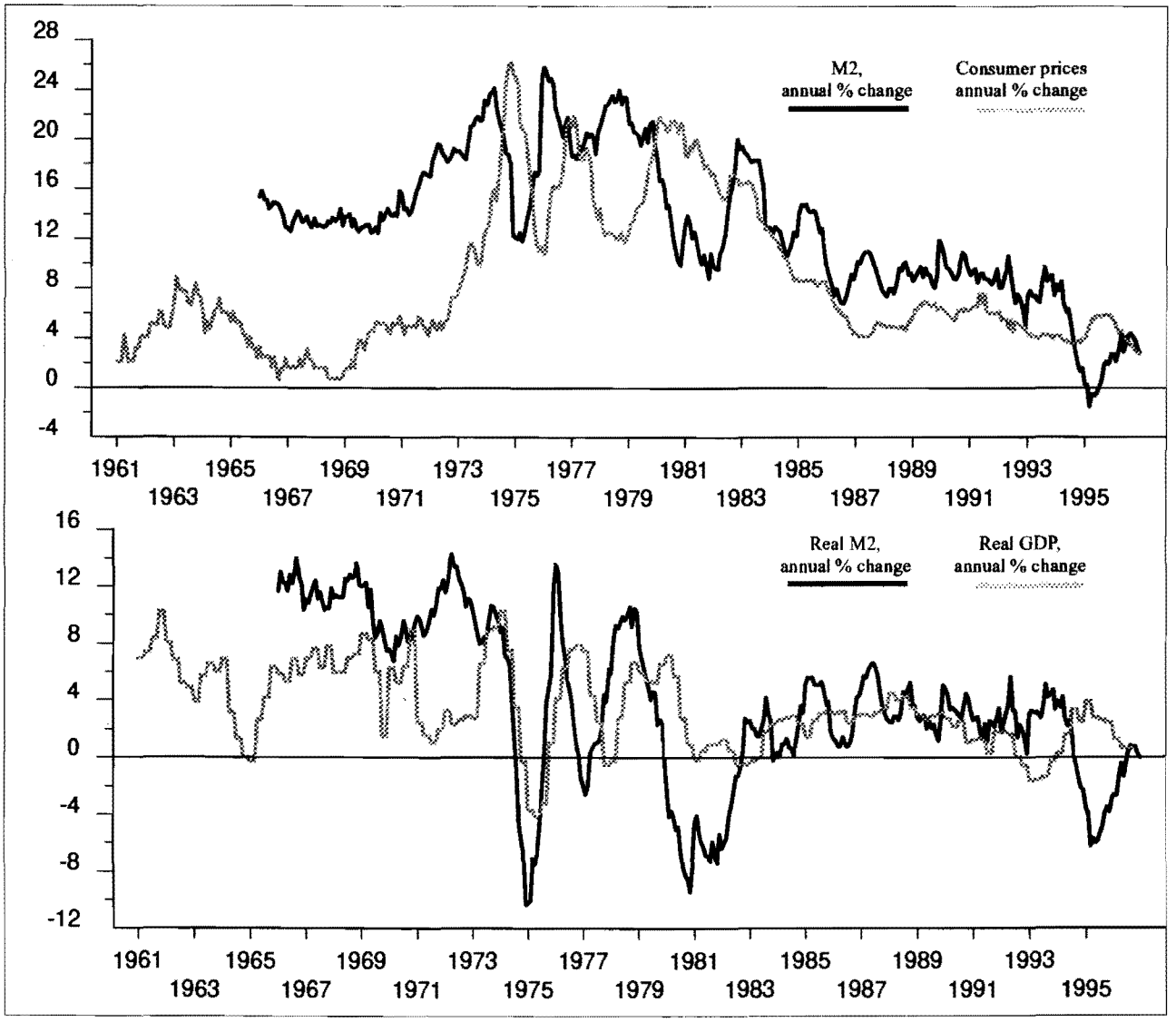
German money growth bounded forward in 1996. It ran at 6% a year compared with almost nil in early 1995. But recent German monetary data are complex. Bank liabilities which take the form of deposits are included in the money stock, whereas those which take the form of bonds ("monetary capital formation") are not. This distinction is justifiable, since bonds cannot be used as a means of payment. However, the boundary is fuzzy. If people hold money in long-dated deposits instead of short-dated bonds, monetary growth accelerates, although the situation is similar to that where they hold short-dated bonds instead of long-dated deposits. As the Bundesbank notes in its December *Monthly Report*, "uncertainties" in connection with European monetary union may be causing people to keep assets in deposits, not bonds, artificially boosting money growth. Trend money growth may be quite steady, at about 5% a year, consistent with moderate growth in 1997 and 1998.

France



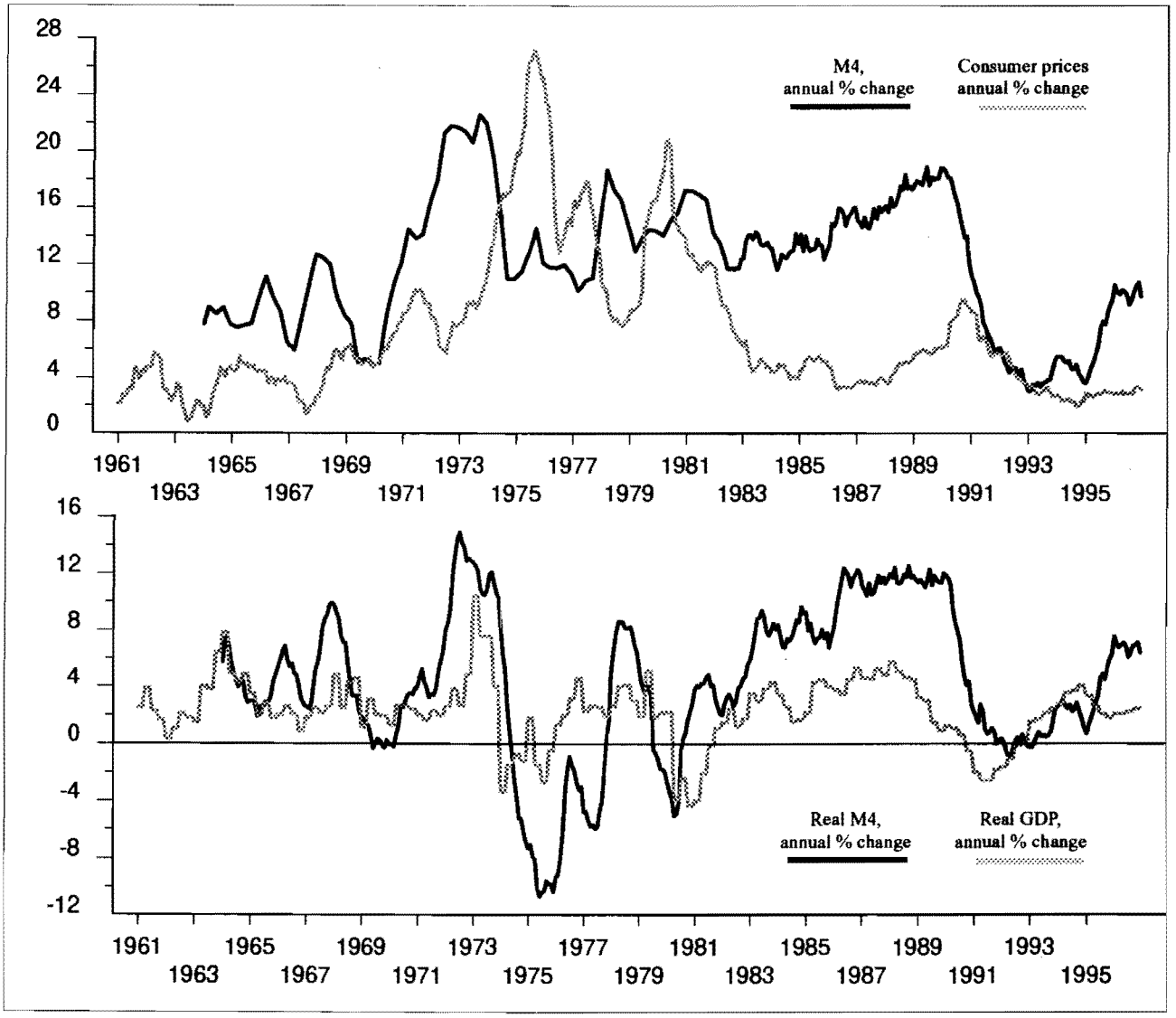
As in Germany, the interpretation of monetary data in France is complicated by institutional changes. In 1993 and 1994 the introduction of money market mutual funds led to a large switch of funds into them from bank deposits, which caused a dip in the growth of the narrow money measures. More recently, people have switched out of money market mutual funds, which are part of M3, into Housing Savings Plans (*les plans d'épargne-logement*), which are the bulk of a separate aggregate called P1. M3 + P1 may give the best guide to underlying trends and in late 1996 it was increasing by about 4% a year. French monetary policy is widely considered to be restrictive, but in fact this sort of money growth rate is consistent with broader economic stability. Credit to the private sector was still subdued in late 1996, showing no change from year-earlier levels. By contrast, the budget deficit was financed quite heavily from the banking system.

Italy



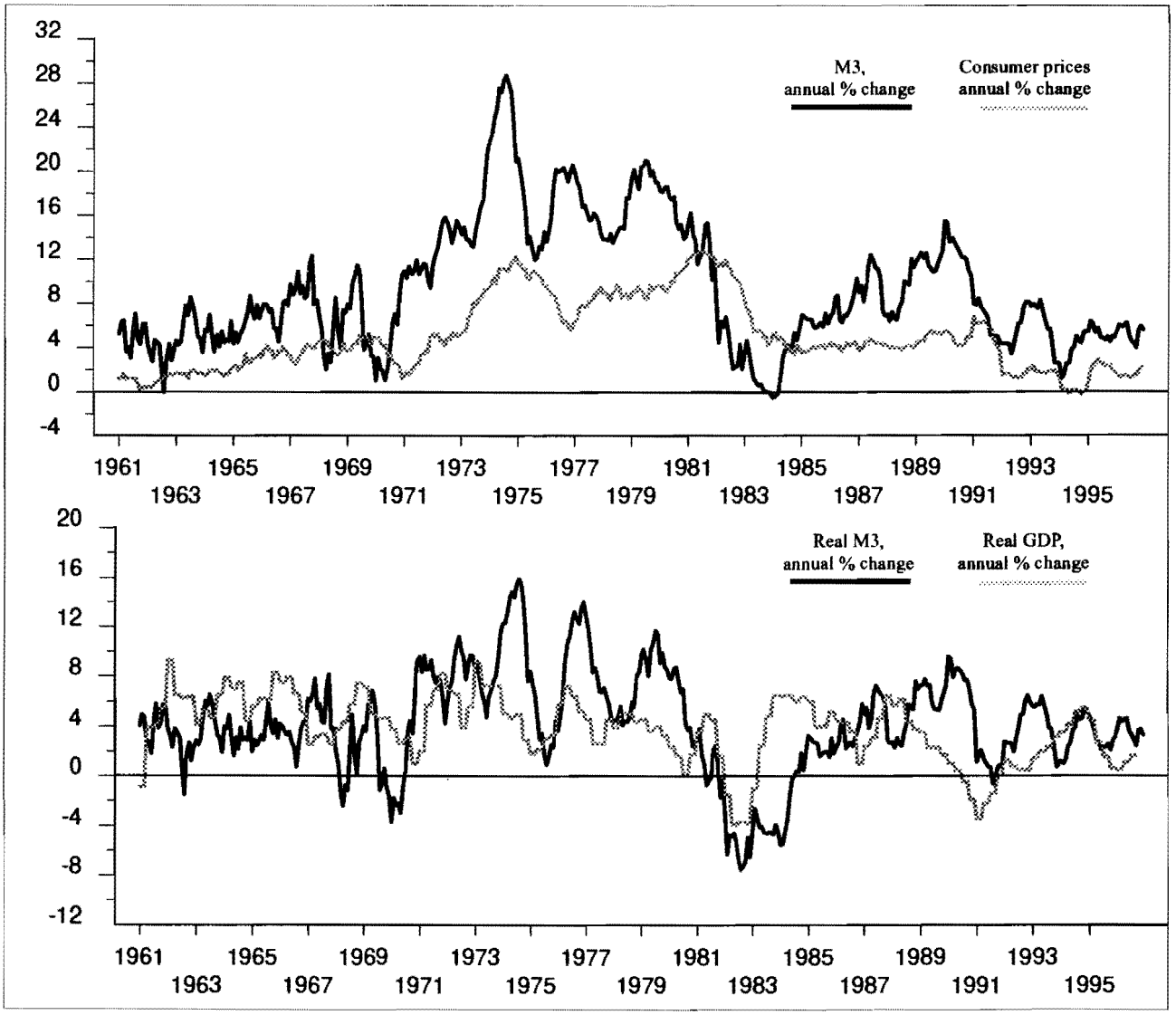
Italian monetary trends in the last three years have been remarkable. In the ten years to 1985 Italian broad money growth was always higher than 10% a year; in the following eight years it was usually about 10% a year and routinely higher than in most other European countries, such as Germany and France; but since early 1994 money growth has tumbled, and in 1995 and 1996 it was similar to that in its two big neighbours. Two factors seem to have been responsible. First, the Banca d' Italia has been trying to extend the life of the enormous Italian public debt, which is reducing the proportion of the debt held inside the banking system. It has been helped in this task by hopes that Italy can participate in the single European currency project. Secondly, parts of the Italian banking system suffer from a heavy incidence of bad debts and inadequate capital, which has restricted the ability to extend credit.

United Kingdom



As so often in the past, the UK's record on monetary control is - by international standards - deviant and irresponsible. The annual growth rate of broad money, which ran at under 5% for almost four years until early 1995, has subsequently been at almost 10%. In accordance with previous cyclical patterns, the acceleration in monetary growth has been particularly pronounced in the corporate and financial sectors. One consequence has been a return of asset price inflation, with share prices hitting new all-time peaks, and the housing and commercial property markets showing strong signs of revival. Above-trend growth in demand and output has resumed. High monetary growth, plainly incompatible with 2 1/2% inflation in the long run, cannot be reduced unless interest rates rise significantly. But the move to higher interest rates is being postponed by politics (i.e., the imminent general election) and a curiously strong exchange rate.

Canada



Canada's macroeconomic situation is dominated by its much larger neighbour, the USA. It is therefore a mistake to regard the trend in real broad money as an important influence on economic activity. However, Canadian monetary policy is independent of that in the USA, and the long-run differentials in inflation and interest rates depend on decisions taken by the Bank of Canada. In December 1993 the newly-elected government and the Bank of Canada agreed an objective of keeping inflation between 1% and 3% a year. This objective has been largely achieved. At present money growth seems to be under slightly tighter control than in the USA, with the M3 measure of money increasing by about 5% in both 1995 and 1996 compared with about 7% in the USA. The Canadian dollar has been strong against the US dollar in the last few quarters, and the prospect seems to be continued reasonably strong economic growth with low inflation.