



Centre for Economic Policy Research

**Business Cycle Dating Committee
of the
Centre for Economic Policy Research**

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1. The CEPR Business Cycle Dating Committee

The Centre for Economic Policy Research has formed a committee to set the dates of the *euro area business cycle*. Its mission is to establish the chronology of recessions and expansions of the 11 original euro area member countries plus Greece for 1970-1998 and of the euro area as a whole from 1999 onwards. The euro area currently includes Austria, Belgium, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal, Spain.

In determining the chronology of the euro area business cycle, the CEPR Business Cycle Dating Committee has decided to adopt a definition of a recession similar to that used by the National Bureau of Economic Research (NBER), which has for many years dated the US business cycle. We have had to adapt the NBER definition, however, to reflect specific features of the euro area. Thus the Committee defines a recession as a significant decline in the level of economic activity, spread across the economy of the euro area, usually visible in two or more consecutive quarters of negative growth in GDP, employment and other measures of aggregate economic activity for the euro area as a whole, and reflecting similar developments in most countries. A recession begins just after the economy reaches a peak of activity and ends when the economy reaches its trough. Between trough and peak, the economy is formally in an expansion; between peak and trough it is in a recession. In both cases, growth rates may be very low.

The CEPR Committee's task is significantly different from that of the NBER. The euro area groups together a set of different countries. Although subject to a common monetary policy since 1999, they even now have heterogeneous institutions and policies. Moreover, European statistics are of uneven quality, long time series are not available, and data definitions differ across countries and sources.

These differences explain why some of the CEPR criteria for dating business cycles differ from those used by the NBER:

- Unlike the NBER for the US, the CEPR committee dates in terms of quarters rather than months. Currently, the most reliable European data for our purposes, and those around which a reasonable consensus can be achieved, are the quarterly series.
- The Committee analyses euro area *aggregate* statistics, but it also monitors *country* statistics to make sure that expansions or recessions are widespread over the countries of the area. There is no fixed rule by which country information is weighted.
- The Committee views real GDP (euro area aggregate, as well as national) as the main measure of macroeconomic activity, but it also looks at additional macroeconomic variables, for several reasons. First, euro area GDP series constructed for the pre-EMU era reflect not only movements in economic activity but also changes in exchange rates, which are problematic. Second, GDP statistics are sometimes subject to large subsequent revisions, and this makes them an imperfect indicator of current business cycle conditions. Third, measured GDP does not always move in parallel with its individual major components (which may indeed be moving in different directions) or other macroeconomic aggregates such as employment. Fourth, these variables are known to display more cyclicity than GDP and are useful in strengthening opinions when the GDP data do not seem very decisive. They are also available (with the exception of investment) earlier and at a higher frequency than GDP.
- For recent euro area data (since the end of the 1990s) we use, where possible, official Eurostat statistics and focus primarily but not exclusively on (1) quarterly GDP (Eurostat source); (2) quarterly employment (OECD); (3) monthly industrial production (Eurostat); (4) quarterly business investment (Eurostat); (5) consumption and its main components (Eurostat and ECB). For country data, we use Eurostat and OECD sources and monitor Germany, France and Italy systematically.
- Historical euro area data since the 1970s are provided by the OECD and the ECB. We mainly use the ECB source. For national data, we have used the OECD and the IMF.
- We do not use a fixed rule to weight different data series, although we give primary emphasis to GDP.
- The committee informally assesses the depth, duration and severity of a recession. Hence although recessions are usually characterized by at least two consecutive quarters of declining GDP, this is not a fixed rule.

2. The euro area business cycle since 1970

The Committee has identified the following cyclical episodes since 1970, with peaks and troughs dated as follows:

PEAK	TROUGH
1974q3	1975q1
1980q1	1982q3
1992q1	1993q3

Table 1. Chronology of euro area business cycles

Thus the Committee has identified three recessions: 1974q3 to 1975q1, 1980q1 to 1982q3, and 1992q1 to 1993q3.

Figure 1 shows the level of real GDP (seasonally adjusted) from 1970 to 1998 according to two alternative GDP series constructed by the OECD and the ECB (denoted by FHM – see below). Shaded bands indicate recessions.

For the same period, we also report key series plotted together with GDP: investment (Figure 2) and Employment (Figure 3). Figures 4a-4c, 5a-5c, and 6a-6c plot GDP, investment, employment and industrial production for France, Germany and Italy.

These data underpin the following analysis of the nature of the recessions identified by the Committee:

- Two of the three recessions we have declared – in the 1970s and 1990s – are pronounced and also synchronized across countries and variables. In both periods employment, investment and industrial production declined with GDP.
- The third recession, in the 1980s, exhibits different and specific characteristics. The recession in terms of aggregate output is milder but longer. GDP does not decline sharply but rather stagnates for almost three years. Our dating is thus based on the behaviour of employment and investment which, unlike GDP, declined sharply during the period. In this episode, we also observe more heterogeneity in output dynamics across the three large economies than in the other two recessions. That affects our designation of the date of the trough, in particular.
- As to recent years, the Committee judges that, based on currently available data, it would be premature to declare a peak (and hence a subsequent recession). There is still much uncertainty, as we discuss in the next section.

3. The euro area since 2001

The role of the Committee is to establish the chronology of recessions and expansions, not to forecast, nor even to characterize the current conjuncture. This means that it may be necessary to wait until well after the event to declare a peak or trough in economic activity. The recent period is a case in which caution is clearly required.

Euro area GDP has slowed down since the first quarter of 2001. A weak resurgence of positive growth at the beginning of 2002 seems to have come to a new halt. Employment has grown somewhat, while industrial production, after having fallen sharply in 2001, shows weak signs of recovery (see Figures 7, 8 and 9). Investment has been declining for more than two years, but government consumption rose 2.2% in 2001 and 2.7% in 2002 (ECB Statistics Pocketbook, September 2003).

Figure 10 compares euro GDP in recent years with the 1980s recession by normalizing GDP in 2001q1 and euro GDP in 1980q1 (beginning of the 1980s recession) to 1. Qualitatively, there are some resemblances between the behaviour of GDP now and then, although no sharp fall has been recorded in the recent period, nor have we seen recently more than a single quarter's decline in sequence. And unlike the 1980s episode, employment is *not* declining. Figures 11, 12, and 13 provide GDP information about France, Germany and Italy.

Based on currently available data, our current judgment is therefore that the euro area has been experiencing a *prolonged pause in the growth of economic activity*, rather than a full-fledged recession as we have defined it. The picture may of course change as revised GDP statistics appear.

4. Europe and the US

A comparison between the recent US and euro-area experiences shows some interesting differences and illustrates further why we cannot declare a euro-area recession for the recent period. Current NIPA data show a peak in US GDP in 2000q4 (compare the NBER date of March 2001). According to these data, GDP declined for three consecutive quarters (though 2001q3). The cumulative decline over that period was -0.62%. Cumulative GDP growth from 2000q4 through 2003 was 4.12%. The corresponding numbers for employment (over age 16, measured month middle of quarter) have been -0.75% and +0.14%.

Now consider the euro area, taking 2001q1 as the base period (growth was positive and robust in that quarter, unlike the US). The cumulative change of euro area GDP from 2001q1 through 2001q4 was +0.1%. Cumulative GDP growth from 2001q1 through 2003q2 was +1.1%. The corresponding numbers for employment (based on data in ECB Monthly Bulletin) are +0.5% and +0.76% (the latter through 2003q1).

Thus the euro-area economy has essentially stagnated since 2001q1, and we have

observed neither the sharp (though short) decline in GDP that the US experienced nor the US recovery. This appears to repeat the pattern seen in the 1980s: euro-area GDP is less volatile than that of the US. Note also that employment in the euro area has continued to grow somewhat (although more slowly than in the 1990s), whereas that in the US has not.

Looking back at historical business cycle data, it should be noticed that there is no clear pattern of lead-lag relation between the US and the Euro area. The 1970s recessions are synchronized, while in the 1990s the US recession led the European recession. In the 1980s, the euro area output behaviour was smoother than in the US: the Euro area experienced a long mild recession, while the US had two short sharper recessions. Finally, as discussed above, while in recent years the US experienced a recession and is now showing a recovery (the NBER has dated both a peak and a trough for the US in 2001), current signals from the Euro area are mixed (see Figure 14).

Figures 15 to 17 report US GDP and some other key macroeconomic variables. Peaks and troughs are more clearly synchronized across variables in the US than in the euro area.

5. Data sources

5.1. Historical data (1970-1998)

5.1.1. Euro area GDP, investment and employment are from the data set constructed at the ECB by Fagan *et al.*¹ (FHM). This data set includes national account data and labor market data. We also use GDP statistics from OECD Quarterly National Accounts Database (Gross domestic product /GDP by Expenditure, Comparable Table /Constant prices, constant PPPs, OECD base, annual rates SA).

5.1.2. Large countries

The sources are OECD Quarterly National Accounts (QNA), Main Economic Indicators (MEI) and Quarterly Labor Force Statistics (QLF):

- Gross domestic product /GDP by Expenditure, Comparable Table /Volume index, OECD base, SA /1995=100. Source: QNA.
- Gross fixed capital formation /GDP by Expenditure, Comparable Table /Volume index, OECD base, SA /1995=100. Source: QNA.
- Civilian employment index sa/Index publication base SA /Civilian Employment (survey) All persons/Levels/All ages. Source: QLF.
- Industrial production ISIC C-E sa/Index publication base SA /Production/Production by economic activity /1995Y. Source: MEI.

The only exception is GDP for Germany. Since the OECD series starts only after reunification, we use statistics from the IMF (GDP Gdp Vol. (1995=100) /Index Number /Base year: 1995 /averages /constant prices).

5.2. Period 1999 to present

Euro area GDP (constant price and seasonally adjusted), investment (gross fixed capital formation, constant price and seasonally adjusted) and industrial production (seasonally adjusted) series are from Eurostat. Euro area employment is the index published by OECD (Main Economic Indicators; calculation from labour force sample surveys)

Large countries' GDPs are from Eurostat (constant price and seasonally adjusted).

5.3. US data

Real Gross Domestic Product [Billions of chained (1996) dollars] Seasonally adjusted at annual rates, Table 1.2., Line 1, Bureau of Economic Analysis.

Gross private domestic investment [Billions of chained (1996) dollars] Seasonally adjusted at annual rates, Table 1.2., Line 6, Bureau of Economic Analysis.

Employment: Total Nonfarm Employment - Seasonally Adjusted, Bureau of Labor Statistics

Industrial Production, NBER website.

¹<http://www.ecb.int/pub/wp/ecbwp042.zip>

6. Figures

Figure 1 Euro area GDP, 1970-98

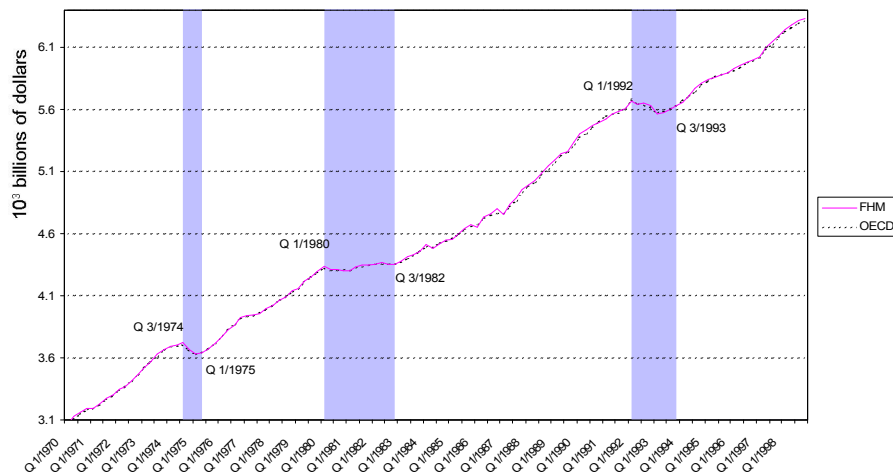


Figure 2 Euro area GDP vs investment, 1970-98

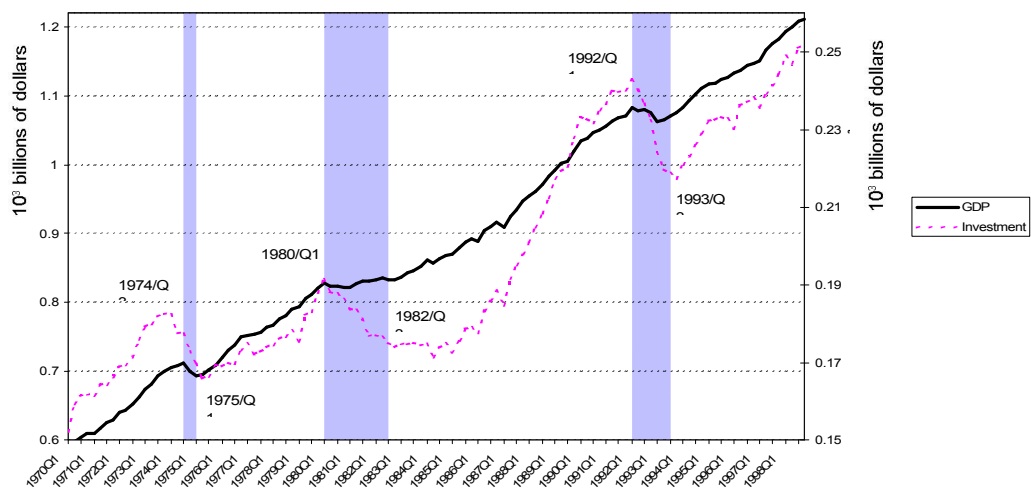


Figure 3 Euro area GDP vs employment, 1970-98

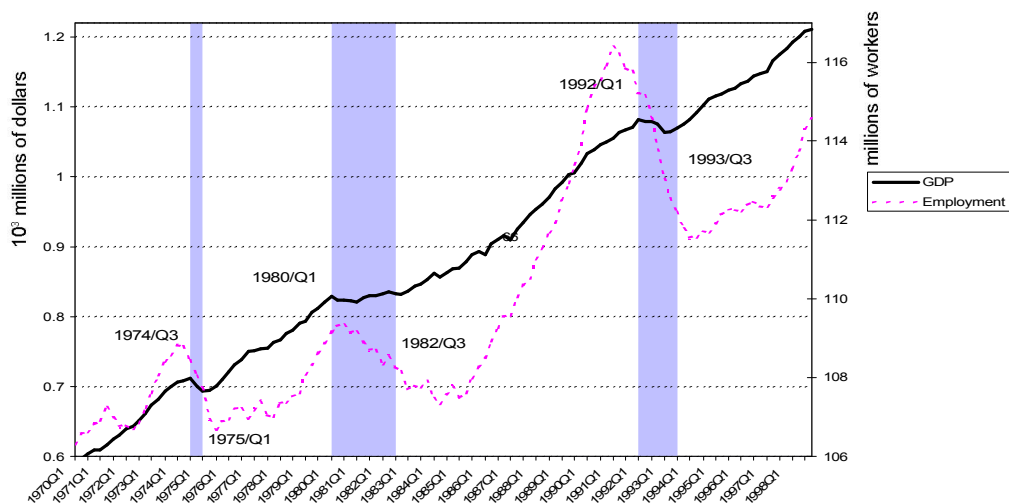


Figure 4a GDP vs investment, France, 1970-98

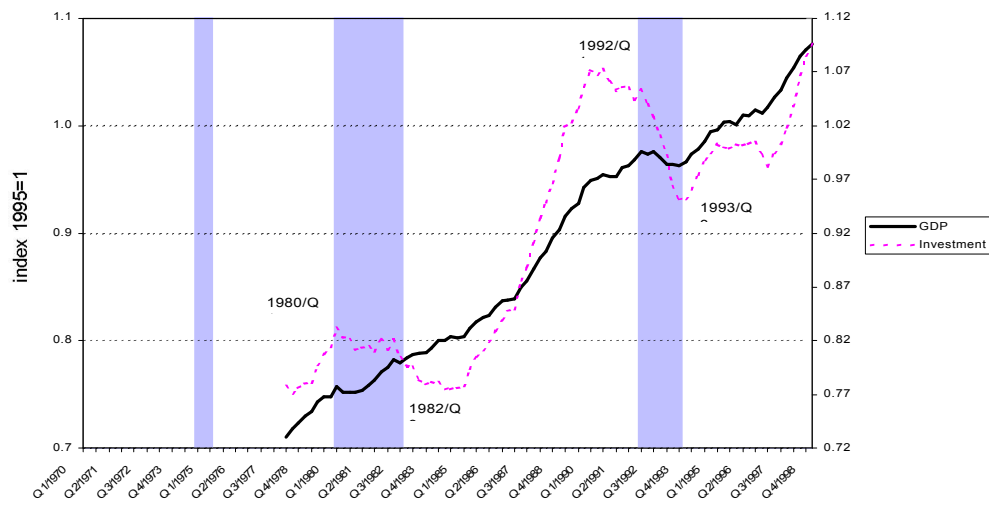


Figure 4b GDP vs employment, France, 1970-98

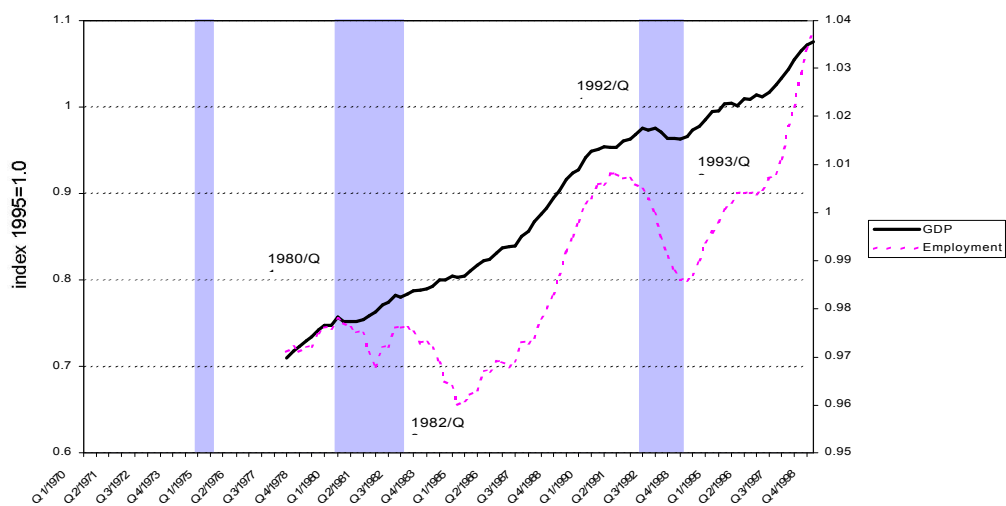


Figure 4c GDP vs industrial production, France, 1970-98

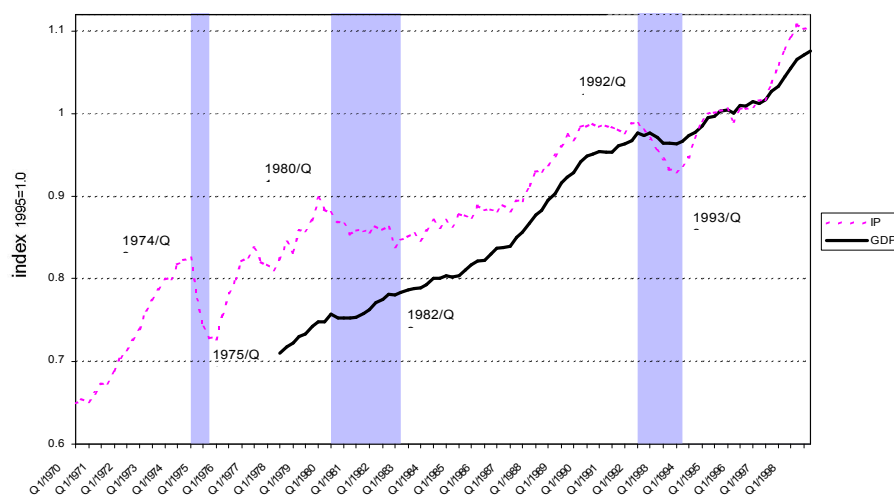


Figure 5a GDP vs investment, Germany, 1970-98

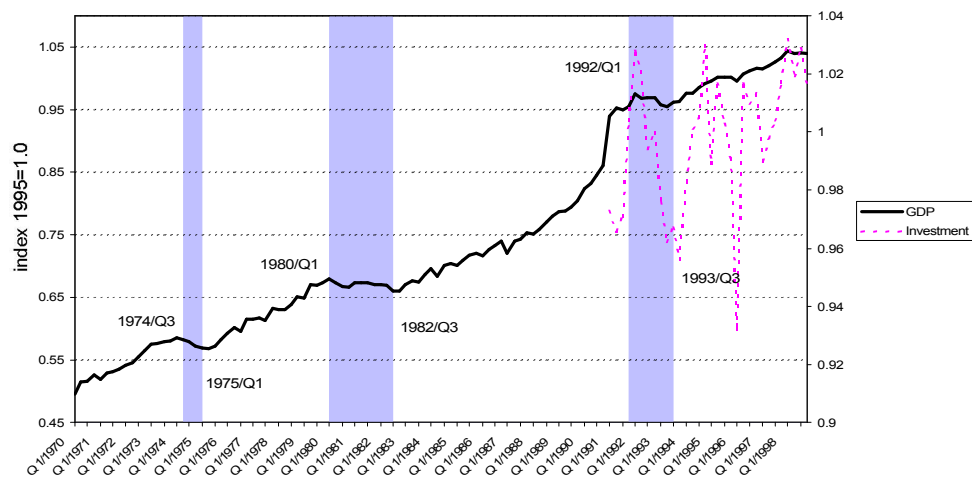


Figure 5b GDP vs employment, Germany, 1970-98

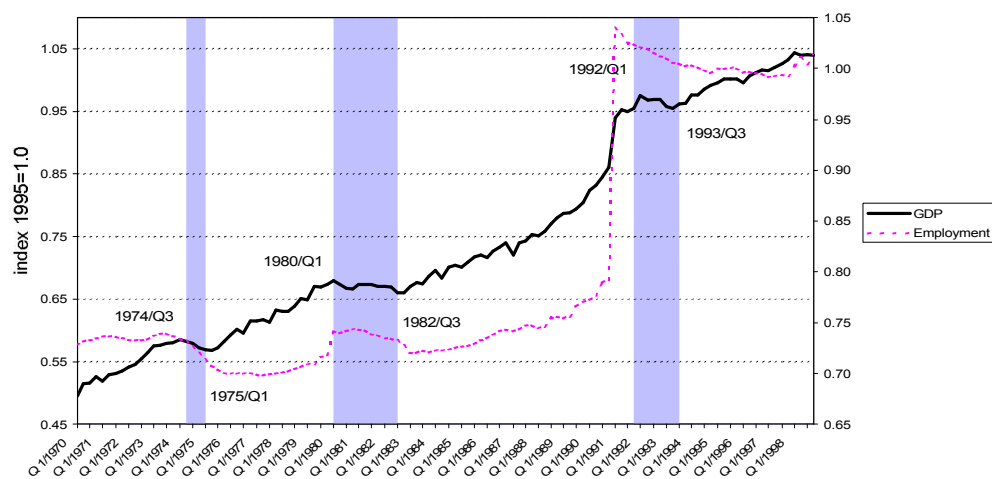


Figure 5c GDP vs industrial production, Germany, 1970-98

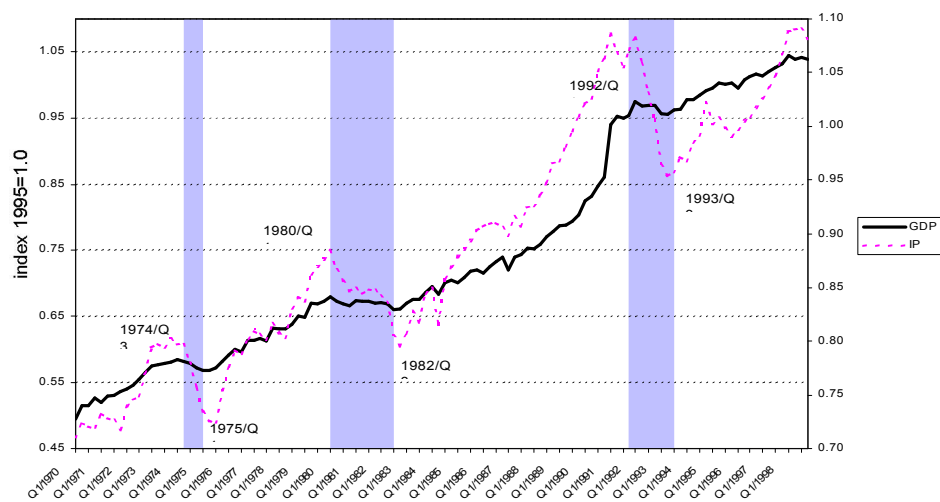


Figure 6a GDP vs investment, Italy, 1970-98

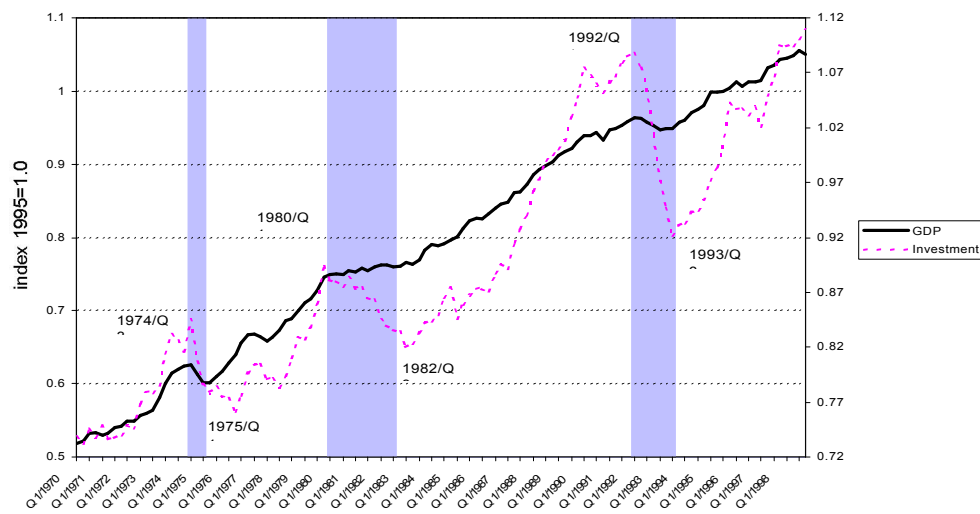


Figure 6b GDP vs employment, Italy, 1970-98

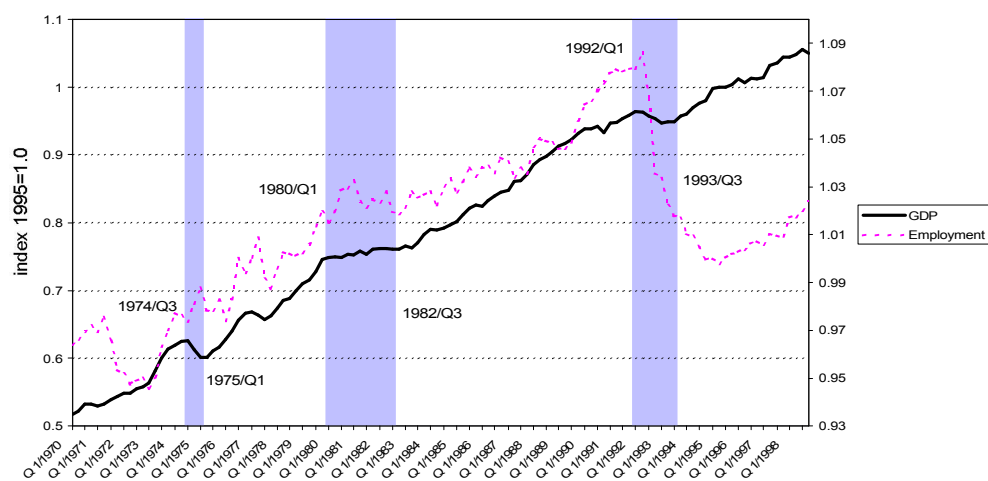


Figure 6c GDP vs industrial production, Italy, 1970-98

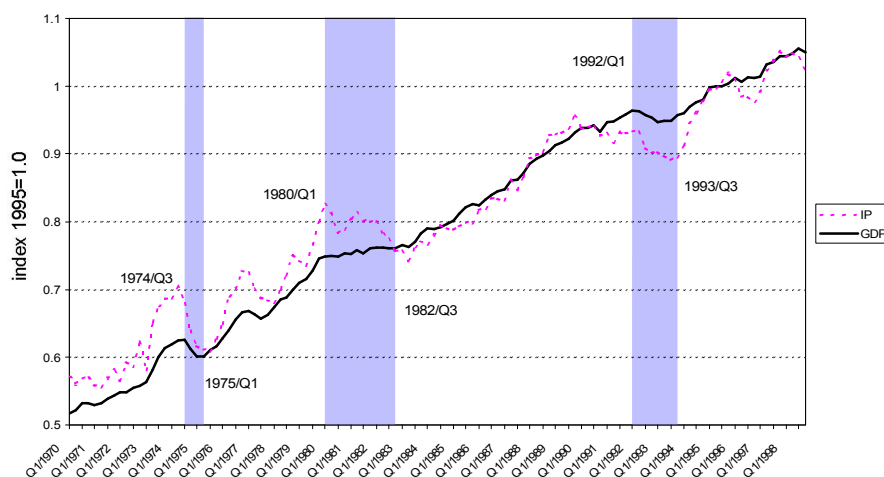


Figure 7 Euro area GDP vs investment, 1999-2003

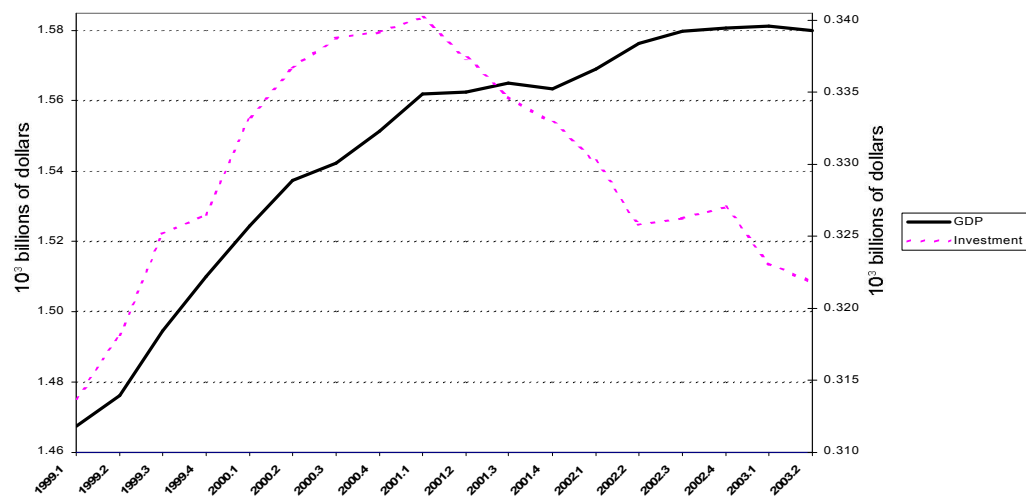


Figure 8 Euro area GDP vs employment, 1999-2003

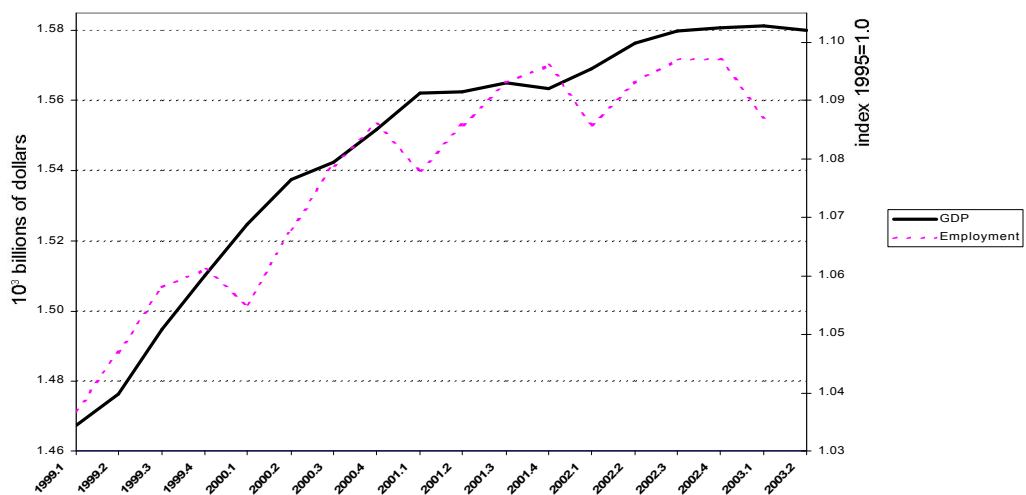


Figure 9 Euro area GDP vs industrial production, 1999-2003

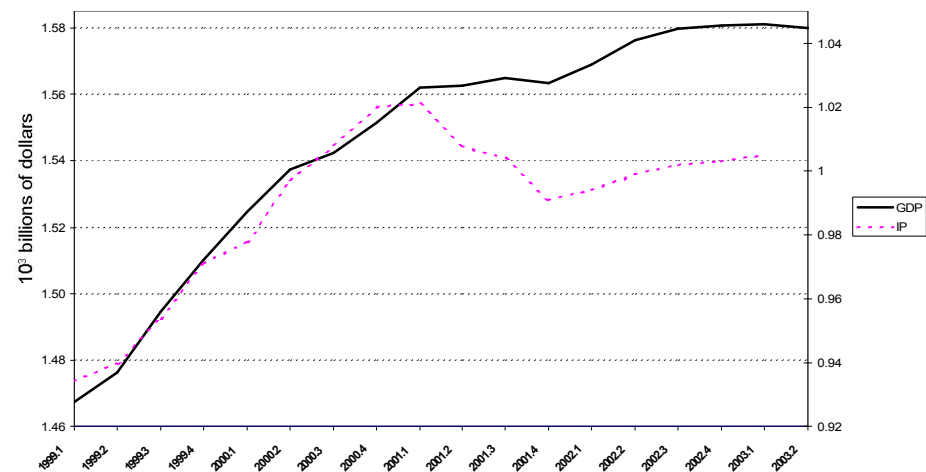


Figure 10 Euro area GDP, 1980s vs 2001 onwards

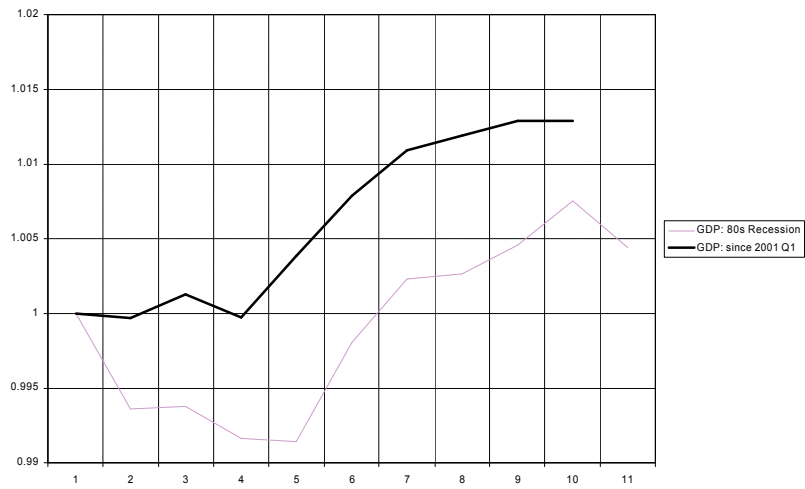


Figure 11 GDP, France vs euro area, 1999-2003

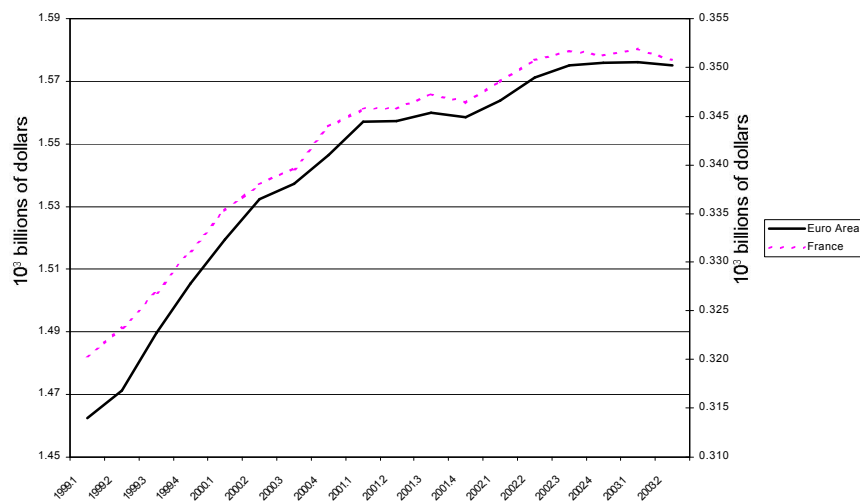


Figure 12 GDP, Germany vs euro area, 1999-2003

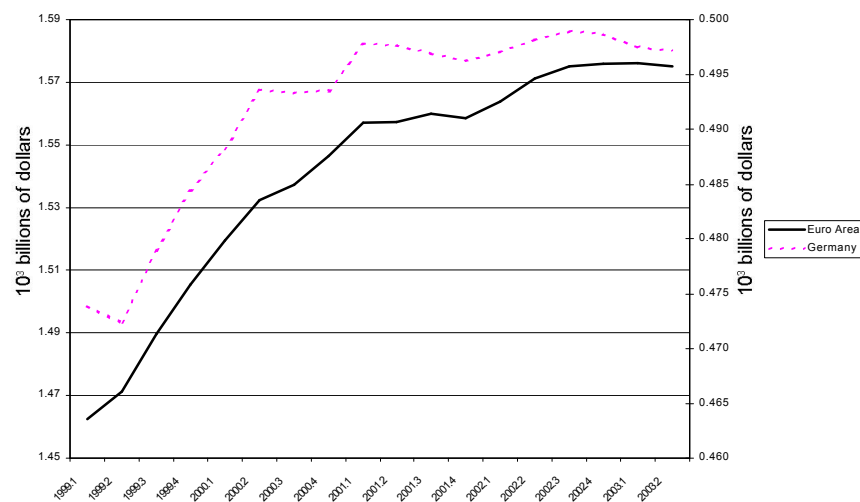


Figure 13 GDP, Italy vs euro area, 1999-2003

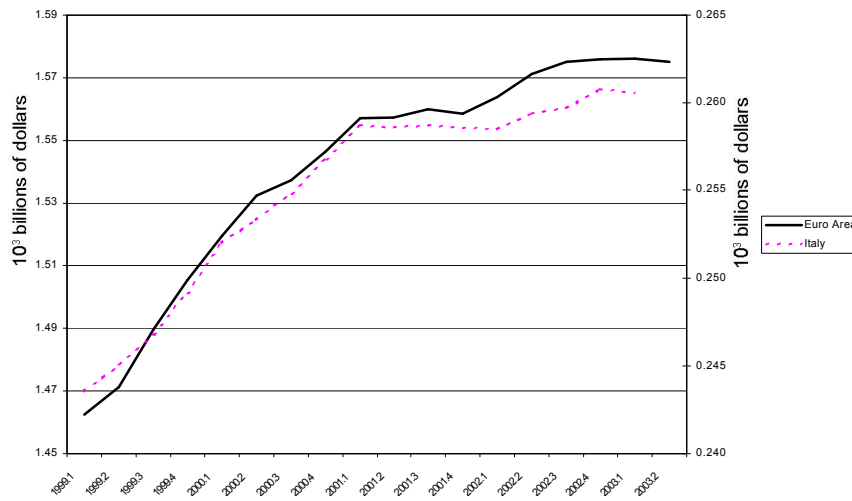


Figure 14 Euro and US recessions, 1970-2002

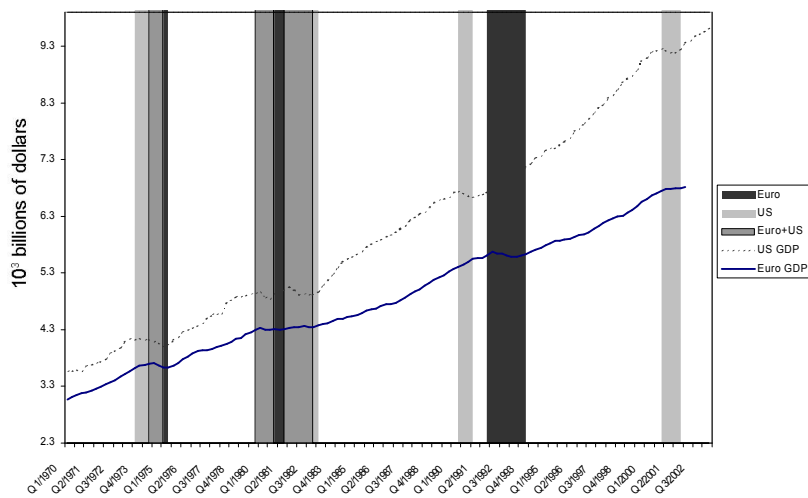


Figure 15 US GDP vs investment, 1970-2003

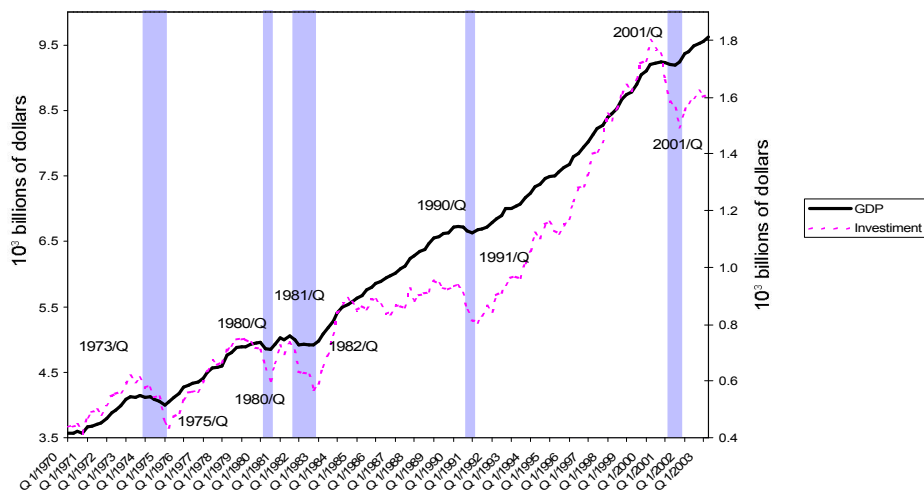


Figure 16 US GDP vs employment, 1970-2003

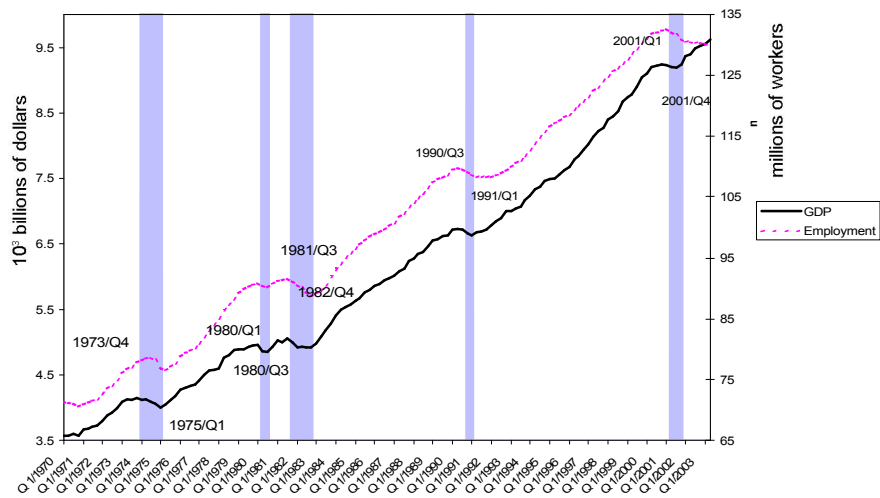


Figure 17 US GDP vs industrial production, 1970-2003

