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# European Business Cycles and Economic Policy, 1945-2007

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### **Abstract**

In the first age of rapid economic growth after 1945, fluctuations of western European output and employment were so mild that the very notion of a cycle was transformed or even seemed obsolete. A second period of much slower average economic growth was marked by large and frequent oscillations, associated with the oil shocks and the Great Inflation of the 1970s and early 1980s. The last phase, characterized by smooth and ample swings in output and inflation, has been dubbed the Great Moderation, reflecting the gradual reduction of inflationary trends. Different reasons have been proposed for these changing patterns but a common factor is that the conduct of economic policy was critical. In this paper we survey the evolution of basic features of cycles in Europe, such as volatility and synchronization; explain why changes in economic policy-making were a fundamental driver of changing patterns; and provide analytical narratives of the responses of national governments and central bankers to cyclical fluctuations. Finally we briefly look at the historical and recent experience of Eastern Europe, assessing the area's reintegration from 1989 after the long economic decoupling from the rest of the continent in 1945.

**Keywords:** business cycle, inflation, great moderation, fiscal and monetary policies

**JEL Classification:** E32; E63; N14 N36.

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## **Introduction**

In the first age of rapid economic growth after 1945, fluctuations of western European output and employment were so mild that the very notion of a ‘cycle’ was transformed or even seemed obsolete. A second period of much slower average economic growth was marked by large and frequent oscillations, associated with the ‘oil shocks’ and the Great Inflation of the 1970s and early 1980s. The last phase, characterized by smooth and ample swings in output and inflation, has been dubbed the ‘Great Moderation’, reflecting the gradual reduction of inflationary trends.

Different reasons have been proposed for these changing patterns but a common factor is that the conduct of economic policy was critical. In this chapter we explain how governments contributed and responded to fluctuations in economic activity in Europe during the second half of the 20<sup>th</sup> century. In section 2 we sketch the basic ideas essential to understanding the relationship between economic policy and business cycles. They include that monetary and fiscal policies influence fluctuations in output, employment and inflation according to the financial openness of the economy (free capital flows vs. capital controls), as well as the currency regime chosen by policymakers (pegged versus flexible exchange rates). We also document the timing of financial liberalization in Europe and the persistent preference of most European governments for pegged exchange rate regimes over the entire period. In section 3 we examine the evolution of basic features of cycles in Europe, such as volatility and synchronization. We note the falling volatility of cycles in the 1960s and since the mid-1980s, explaining why changes in economic policy-making were a fundamental driver. In section 4 we support this analysis with narratives of the responses of national governments and central bankers to cyclical fluctuations before and after the global recession of 1974-75. In section 5 we briefly look at the historical and recent experience

of Eastern Europe, assessing the area's reintegration from 1989 after the long economic decoupling from the rest of the continent in 1945.

## **2. A conceptual framework**

### *2.1 Policy objectives*

Governments' preferences determine whether a stable purchasing power of the currency or a high and stable level of production and employment will be their main policy focus. They assign different weights to fluctuations in the level of prices and economic activity when taking decisions on policy.

Historically, policy preferences reflected a broader societal consensus about the desirability of alternative objectives. The great slump that began in 1929 was the catalyst for acceptance of Keynesian economic doctrine and more generally a belief in the obligation of governments to prevent such a crisis again. In most of the postwar industrialized world, government activism was legitimated and heightened expectations of welfare turned the pursuit of social reforms and full employment into the major objective of economic policy. This approach has been blamed for creating a persistent inflationary bias, which judged large fluctuations in the price level as only a minor evil (Burns 1979; Ciocca and Nardozzi 1996). A notable exception was West Germany, where the public reaction to earlier twentieth century economic history was an abhorrence of inflation and an independent central bank committed to price stability. Only after 1980 did a growing consensus about the undesirability of high and volatile inflation eventually change the macroeconomic regime, so that 'taking on inflation' became the main priority of economic policymaking (Volcker and Gyohten 1992). In

the course of this regime shift, West German monetary arrangements became the model for European trans-national money in the European System of Central Banks of the 1991 Maastricht Treaty.

## *2.2 Policy instruments and optimization*

Monetary and fiscal policies are the two main instruments for authorities aiming to stabilize prices, output and employment. During the 1950s and 1960s, the classical instruments of monetary policy—discount rate (Bank Rate), open market operations and reserve requirements—were used in different combinations across Western European countries; their mix also changed over time in the same country.

For instance Bank Rate was systematically employed by monetary authorities in the UK, West Germany, Belgium, the Netherlands and Sweden. Also the French authorities often resorted to this instrument in the 1950s, but did so much less frequently in the following decade. Conversely, the Italian authorities left discount rates almost unchanged for very long periods (Michaely 1971, 33-37). Both French and Italian authorities gave increasing priority to the maintenance of low and stable nominal interest rates, in order to guarantee cheap funding for the government and the large state-owned industrial sector.

In many countries traditional instruments were also complemented by a wide array of administrative controls, such as cash and liquidity ratios, quantitative limits on rediscounting and credit, regulation of banks' external position and so on. This diversity of instruments was maintained in the transition to targeting growth rates of the money stock for anti-inflationary purposes, initiated by West Germany around 1974 (von Hagen 1999, 421-36) and adopted by the other major European governments by the end of the decade (Houben 2000, 142-174).

After the Second World War the greatly enhanced size of the typical central government budget gave the state greater direct influence over the level of spending in the economy.

Total spending or aggregate demand determined the short term demand for workers and the pressure on prices. Countercyclical use of taxation and government spending therefore seemed to some a way of eliminating periodic slumps in employment. In practice the delays inherent in approving and planning new public expenditure, coupled with political pressures not to cut spending, meant that fiscal policy was insufficiently responsive for 'fine tuning' economic policy. There is evidence that, instead, in many cases fiscal stances were the principal destabilizing force in the economy; government spending and taxing policies were the sources of fluctuations in employment and output (Darvasz et al 2005 ).

According to the theory of macro-economic policy, governments should choose policy instruments so as to optimize policy targets, and there is some evidence that this is what they tried to do. Macroeconomic policy coordination, in its earliest theoretical formulation, suggested that different policy instruments should be assigned to the various targets. In this way demand management would be more effective, particularly when the value of one target, such as unemployment, required expansion and another, such as the balance of payments, warranted contraction. Modern reformulations in game-theoretic fashion also contend that fiscal and monetary authorities can achieve higher growth and price stability if they choose cooperative strategies (Nordhaus 1994). By the 1990s, there was something of a reversion to nineteenth century idealized gold standard policy that gave less scope to policy discretion. The success of West German macroeconomic management encouraged the adoption of policy rules that constrained

European governments' options in monetary and fiscal policy. The Maastricht criteria and the Stability and Growth Pact were the most obvious examples. Governments were not competent, or could not be trusted, to exercise macroeconomic policy discretion, or simply it did not work.

### *2.3 How the economy worked.*

The relationship between policy instruments and targets depends on the structure of the economy, which was not fixed. Opinions as to the relationship changed substantially in some countries over the sixty years from 1945. Partly in consequence, direct controls and quantitative restrictions were more widely employed in the early period, while a greater willingness to use prices and work with markets is apparent in later years.

Among structural factors, financial openness and currency regimes determined whether and to what extent economic policy instruments could achieve their targets. There is a close relationship between the possibilities of an independent monetary policy geared towards domestic goals, pegged exchange rates and international capital mobility for small open economies. A government with a pegged exchange rate aims to counteract a recession by expansionary monetary policy that initially lowers domestic interest rates. The interest rate differential opened up with foreign capital markets causes a capital flight. Investors convert domestic currency into foreign currency at the pegged exchange rate, and the country's international reserves fall as the central bank is obliged to intervene in foreign exchange markets (i.e. buys domestic currency and sells foreign) in order to stabilize the nominal exchange rate around the official peg. This foreign exchange operation contracts the monetary stock and offsets the initial expansion: the domestic monetary stock is endogenous to the economy and cannot be

controlled by the monetary authorities, so that output and employment ultimately remain unaffected.

Attempts to ‘sterilize’ this monetary offset with a new expansion of domestic monetary base would only accelerate the drain on reserves. Exchange and capital controls could block or slow the outflow, but otherwise foreign exchange reserves will eventually be exhausted. Before that happens investors will anticipate the abandonment of the pegged exchange rate and there will be a ‘speculative attack’. Fundamentals are inconsistent with the target exchange rate: policymakers face a ‘trilemma’ (Obstfeld et al. 2005) that obliges them either to abandon monetary expansion and keep the pegged rate; or to adopt a floating rate if they continue their inflationary policy. Policy-makers wanting to use tight monetary policy to preserve price stability in an international inflationary environment would be equally frustrated by the expansionary effect of capital inflows and accumulation of foreign reserves. In both cases, a weak form of monetary policy independence could be achieved through periodical realignments (i.e. devaluations or revaluations) of the nominal exchange rate, validating the accumulated inflation differential.

This conceptual framework helps explain postwar economic policy in Western Europe. As shown in Table 1, European governments exhibited remarkably consistent preferences for pegged exchange rates and a clear dislike of floating over the second half of the century. Their choice reflected the harm that they believed exchange rate fluctuations would have caused to intra-European trade and the Common Agricultural Policy (Eichengreen 1996 b, 137).

TABLE 1 HERE



Pegging to the US Dollar under the Bretton Wood system, adopted since the mid 1950s, was definitely abandoned by most European governments in 1972-73, but quickly replaced by 'de facto' pegging to the Deutsche Mark. Two periods of anchoring to the German currency as an external constraint on domestic economic policy were the 'Snake' (1972-78), and the European Monetary System (1979-93). Both initially proved sustainable only for a small group of North European small economies with moderate inflation. But the peg was successfully adopted by large inflationary countries in the early 1980s as a disciplinary device to achieve disinflation (Gros and Thygesen 1992). Capital mobility and arbitrage also increased over the period, both because of official financial liberalization and by circumvention of national capital controls (Marston 1995). As shown in Table 2, based on an index of external financial deregulation (Quinn 2003), European governments gradually relaxed capital controls from the late 1970s and eventually dismantled them during the 1980s, enhancing the prominence of the 'trilemma'.

TABLE 2 HERE

From the mid-1950s to 1971, and again from the early 1980s to the adoption of the single currency in 1998, pegged currency regimes limited the policy discretion of governments. Pegged rates restricted how much inflation was possible without capital flight and a change in the exchange rate. They thereby contributed to holding down both expected and actual inflation.

In the last quarter of the twentieth century financial integration further tied the hands of governments. Only during the 15 years between the demise of Bretton Woods and the last realignment within the EMS (1987) did floating or pegged-but-frequently-

adjusted rates relax this external constraint and give policymakers significant leeway. As we show in the following section, this was also the period in which fiscal and monetary policies became less disciplined and business cycles in Europe more volatile. Government policy was more active and public uncertainty increased as to future inflation.

This uncertainty is demonstrated by the history of the Phillips curve, an empirical relation between inflation and unemployment. Originally estimated for the UK from 1861 to 1957, the data spanned a period of stable price expectations. Once figures from more inflationary subsequent years were introduced, the simplicity of the inverse relationship disappeared. It could only be recovered by introducing changing expected inflation (as well as determinants of shifts in the underlying equilibrium unemployment rate). Any idea that policy makers could trade-off more inflation against less unemployment disappeared along with the basic Philips curve. For if policymakers chose any unemployment rate above the equilibrium rate, rising inflation quickly shifted the apparent tradeoff by raising price expectations.

The Phillips curve subsequently has been interpreted as an aggregate supply curve. The apparent trade-off reflects aggregate demand fluctuations along a short run supply curve. In the long run, with price expectations consistent with actual inflation, the supply curve is vertical at the equilibrium unemployment. Demand management cannot influence this level of unemployment. Markets have rational expectations and cannot be fooled by governments or central banks. This explains why expansionary demand management in the 1970s fuelled inflation but not employment.

### **3. A European cycle?**

#### *3.1 Recessions*

Whether or not policy stabilized or destabilized in practice, European economies were repeatedly struck by shocks, usually adverse, and oscillated accordingly. There are various ways of identifying these cycles. The widely adopted definition of the National Bureau of Economic Research (NBER) states that recessions are characterized by “a significant decline in activity, spread across the economy, lasting more than a few months, visible in industrial production, employment, real income, and trade”. Peaks and troughs of output and employment mark the turning points of cycles; expansions—that is, the movement from trough to peak—represent the normal state of the economy, while recessions are “brief and relatively rare.” In the postwar European experience they were indeed.

Figure 1 shows the level of (log) weighted real GDP of 16 countries from 1950 to 2007 based on annual data, and two alternative indicators of fluctuations. Recent approaches define cycles in terms of repeated deviations of output from underlying secular growth trends (Hodrik and Prescott 1990; Backus and Kehoe 1992). Extracting the cycle requires therefore detrending the (log) GDP series. This can be carried out either by assuming a linear trend and first-differencing the series, thus obtaining annual growth rates, or by applying a filter that removes a non-linear trend from the series. This trend is meant to capture potential output, and deviations from trend are interpreted as output gaps.

FIGURE 1 HERE

Level of output data and growth rates suggest that Western Europe went through just three major episodes that can be classified as generalized recessions. The first two episodes were not exclusively European, but rather common shocks to industrialized economies: the extraordinary jump in the price of oil and food prices in 1974-75, and the second oil shock and the 'austerity policies' implemented to keep their inflationary consequences under control in 1980-82. The third episode (1992-93) was more European in nature, for shocks were mainly related to German reunification, the ensuing unusually tight monetary policies and the crisis of the European Monetary System, although the crisis partially overlapped with the US recessions of 1990-91.

However dampened the cycle was for Western Europe as a whole before 1973-74, episodes of stagnation or even recession were far from absent at national level, as shown in Table 3.

TABLE 3 HERE

Country-specific recessions were virtually absent between 1958 and 1974-75, but reappeared from the late 1970s until the early 1990s, reflecting the increased frequency of idiosyncratic shocks. These shocks were often related to financial liberalization and the constraint imposed by rigidly pegged currency regimes. The most dramatic example was the deep crisis that hit Nordic economies (Sweden and Finland in particular) in 1990-93, the severest for those countries since the Great Depression (Jonung et al. 2005). The Nordic crisis was a particularly painful variation of a new type of economic fluctuations that emerged in Europe in the 1980s. According to this interpretation, successful disinflation, falling interest rates, and the liberalization of traditionally highly

regulated banking and financial systems favoured the excessive accumulation of debt,, generating long boom cycles of credit and asset prices (Borio 2003). At the peak of the cycle, mounting inflationary pressures became incompatible with pegged exchange rates, and triggered contractionary intervention of monetary authorities that turned the boom into bust. Jaeger and Schuknecht (2004) identified 16 episodes of asset prices boom and 13 of bust in Western Europe after 1984.

Annual data can prove misleading for identifying the frequency of recessions however. Artis et al. (2003) contend that a typical recession in European countries lasts for about three quarters; thus, at least quarterly data are required to identify recessions more precisely. Unfortunately they are not available before 1960 for most European countries. Table 4 uses quarterly data to determine peaks and troughs of real GDP time series and the number, duration and amplitude of recessions.<sup>1</sup> The table shows that Greece had the most unstable pattern of growth (16 recessions), followed somehow surprisingly by Switzerland (13) and Germany (10). Swiss recessions, together with those in France and Spain, were also longer on average (between 10 and 11 months). Conversely, Ireland and Norway exhibited an impressive stability: just one brief and mild recession, equal to slightly more than 1 per cent of the period 1960-2006. France was by far the most stable among the big continental economies. In turn Switzerland and Greece spent more than 20 per cent of the period in recession, while Germany, Italy and Denmark were in a trough between 13 and 14 per cent of the time.

TABLE 4 HERE

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<sup>1</sup> We use the widely applied algorithm of Bry and Boschan (1971) modified by Harding and Pagan (2001) for quarterly data. Bry and Boschan's (1971) non-parametric approach consists of two rules: (1) a local maximum (minimum) exists in  $t$  if it is the highest (lowest) value compared to values from  $t-2$  to  $t+2$ ; (2) the minimum phase duration should be two quarters (e.g. two negative quarterly growth rates in  $t$  and  $t+1$ ). The second requirement means that we can only identify two recession periods, as a downturn has to last for at least 2 quarters to be labelled a recession.

### *3.2 Volatility*

Ironically the business cycle was declared obsolete in the industrialized economies at the end of the 1960s, just when it was about to return. The shocks of the 1970s caused a jump in cyclical volatility. There is now a broad consensus that not only supply-side shocks (oil prices) but also governments' pro-active response based on Keynesian demand-management fuelled inflation and further destabilized fluctuations. From the mid 1980s, most industrialized countries dramatically shifted to low volatility, entering an era of 'Great Moderation' in which cycles were barely perceptible, or at least attenuated (Blanchard and Simon 2001; Stock and Watson 2004). Figure 2 clearly suggests parallel stories for Western Europe and the United States. By the early 1990s output gap volatility reached historically low values in all European economies, as illustrated in Table 5.

FIGURE 2 and TABLE 5 HERE

It is well-established that the duration of cycles has lengthened and their amplitude (height of troughs and peaks) shortened (Borio 2003, 6-7). Why did cycles stabilize over the 20 years after the mid 1980s? And what has this period in common with the previous era of stabilization?

In the 1960s, the absence of the cyclical swings of the interwar years was often attributed to the greater role of government in the economy through ownership of swathes of industry, supplemented by budgets of historically unprecedented size. Heavier taxation and greater transfers as well as bigger state bureaucracies meant that a large component of aggregate demand was less exposed to the vagaries of the market

than in classic laissez-faire capitalism. Anglocentric interpretations of history were inclined to explain this greater stability and high levels of employment by the Keynesian demand management of benign and omniscient governments (Boltho 1982). But even in what should have been the most Keynesian of economies, in Britain where the doctrine originated, the cause of the higher levels of employment in these decades was primarily higher investment, and secondarily higher exports, rather than public sector deficits (Matthews 1968). Policy was not Keynesian in the sense that fiscal policy targeted employment creation (Tomlinson 1984). Close observers noted that, while the larger government sector may have contributed to strong private sector demand by enhancing confidence, it was also government that triggered recessions with demand management (Maddison 1960).

Contrary to the Keynesian interpretation, even the most conservative of national economic policies met with apparently similar or greater success in minimizing the business cycle. Ludwig Erhard's economic miracle in West Germany based on currency reform and price decontrol, and António de Oliveira Salazar's balanced budgets in Portugal, are cases in point. Growth was strong and prices stable also in Italy during the 1950s, where the Governor of the Bank of Italy, Donato Menichella, targeted the exchange rate and contended that unemployment was a structural problem, not one to be addressed by demand management (Fратиanni and Spinelli 1991)

Governments' ability to keep inflation low and stable, by reducing nominal distortions and uncertainty about future inflation, may have reduced output variability again since the 1980s. In turn this created a more favorable macroeconomic environment. Also thanks to lower inflationary expectations, monetary policy was able to respond more effectively to shocks. Consistent with this view, both in the USA and Western Europe, the steep drop in cycle volatility coincided with a clear anti-

inflationary twist in the conduct of monetary policy. In Europe there is a robust positive empirical relationship between inflation and output gap variability, as shown in Figure 3.

FIGURE 3 HERE

The wide geographical spread of the Great Moderation points to common causal factors: anti-inflationary policies and successful macroeconomic coordination through the EMS, together with the increased independence of central banks, kept inflationary expectations low and stable. Constrained discretion and better coordination between monetary and fiscal policy may help explain the outstanding moderation of the British cycle since the 1990s, in spite of sustained economic growth (HM Treasury 2002).

Or possibly, it was just good luck; that is, particularly benign economic conditions with only mild and infrequent adverse events (such as supply shocks). Stock and Watson (2004) for instance find that the fall in G-7 countries' output variance in the 1980s and 1990s relative to the 1960s and 1970s is almost completely explained by the decline in the magnitude of shocks. But, if oil price hikes were the main driver of GDP volatility, the shift to the moderation era should have been synchronized. The significant lags with which different countries stabilized suggest that the role of the vanishing oil shocks in the Great Moderation is ambiguous at least (Summers 2005, 15-20).

Links between low inflation and low volatility may be more subtle. Since the 1980s the amplitude and persistence of asset price cycles have increased in Western Europe. The boom-and-bust fluctuations mentioned above have also been associated with large and persistent deviations of output growth from trend. This regularity is



consistent with the financial system and the real economy becoming more closely associated, through household and corporate indebtedness, gross fixed investments and asset prices. Some argue that this new environment is a return to that of the Gold Standard (Goodhart 2003).

### *3.3 Synchronization*

Along with a secular fall in volatility, European cycles after 1950 also became more synchronized. By the end of the 20<sup>th</sup> century a true ‘Western European’ cycle seems to have emerged. In fact the first principal component extracted from output gap cycles of 16 Western European countries explains an increasing proportion of their joint variance—from 36 per cent in 1950-73 up to 70 per cent since the early 1990s (see Figure 4 and Table 6). Why?

FIGURE 4 and TABLE 6 HERE

Increased synchronisation of cycles across countries can be caused either by common shocks—such as the oil price hikes—or by the strengthening of mechanisms that transmit unanticipated events. One possible mechanism is international integration and interdependence created by increasing trade in goods and financial assets (Bayoumi and Eichengreen 1993). But trade might also increase the probability of sector-specific, asymmetric shocks, which could reduce cycle correlation (Krugman 1993).

Greater integration is not strictly necessary to explain closer cycle correlation however. For any level of integration, cycles may be synchronised if common shocks become stronger or more frequent: the two oil shocks at business cycle frequency synchronized the recessions of 1974-75 and 1981-82 and explain the greater correlation

of the 1970s and 80s. But in the absence of large common shocks since the early 1990s, the causes of synchronization subsequently must be different.

Pegging exchange rates to the DM within the EMS could have enhanced cycle correlation through increased coordination of macroeconomic policies (Artis and Zhang 1997), although this effect might be stronger for core than for peripheral countries (Inclaar and de Haan 2001). Subsequently the EMU and the Growth and Stability Pact, by requiring countries to follow fiscal rules or disciplines, might create an optimum currency area (as Darvasz et al 2005 contend). Or simply introducing such rules could trigger common shocks and therefore a policy-induced cycle correlation.

In any case, the increased synchronization of national fluctuations with the German cycle is unquestionable. Table 7 shows that a limited number of European economies fluctuated with Germany before 1973. By the end of the century the German connection had become a salient feature of most European cycles, with the important exception of the UK, decoupled from Continental cycles and more synchronized with North America's (Artis et al. 2004; Duecker and Wesche 2004).

TABLE 7 HERE

#### **4. Analytical narratives**

##### *4.1 Coordination failures*

Under the Bretton Woods system, a target for both the government and the central bank was to maintain the value of the pegged exchange rate but what this required was not

always well understood. Uncertainty about the time that the economy took to respond to policy measures compounded the challenge.

As noted above, under the pegged exchange-rate, government policy was constrained by the external balance. Therefore economic policy should have responded to fluctuations in the exchange rate, international reserves and the current account. Yet, statistical evidence suggests demand management was unresponsive to external imbalances in the vast majority of European countries. According to the most detailed study available for nine Western economies between 1950 and 1966 (Michaely 1971), no consistent pattern of response of budgetary policies, as an instrument of aggregate demand policy, to the balance of payments can be found.

Even more strikingly, such unresponsiveness apparently cannot be explained by the use of the budget for competing policy targets. Rather, fiscal policy seemed unavailable for the correction of domestic, as well as balance-of-payments, disequilibria. Governments apparently did not combine fiscal and monetary policy in a manner consistent with the 'policy mix' rule. Tighter monetary policy was appropriate to correcting a balance of payments deficit, for higher interest rates would draw in mobile capital. Expansionary fiscal policy, according to the Keynesian economic doctrine of the day in Britain and the US, would address rising unemployment. With hindsight, governments probably did not use the policy mix rule simply because it would not have worked in most circumstances. More likely, the long run level of unemployment was determined by the structure of the labor market and the extent of competition between firms. Attempts to reduce unemployment below this level with demand policy, would have been met with rising inflation. Then as policy switched to bringing down inflation, unemployment would begin rising.

Coordination between domestic monetary and fiscal policy could be a challenge, particularly with a formally independent central bank. For the central bank might object to financing government budget deficits by monetary expansion. They might prefer to rein in demand to stop price rises if the government budget was too inflationary. The German Bundesbank (until 1957 Bank Deutscher Länder) often resisted expansionary fiscal policies of the West German Federal Government. A 1948 law imposed on the German central bank the primary task of "safeguarding the currency". From 1951 the Bank was also required to support the government's economic policy when there was no conflict with the currency objective. Economic performance was unlikely simply to have been a consequence of the accident of central bank independence; among other influences the intellectual climate created by the Freiburg School of Walter Eucken which emphasised proactive policies to support and enhance competition, a supply orientated neo-liberalism, must have played a role (Denton et al 1968) .

History perhaps was even more important, as the following episode shows. The West German central bank in mid 1955 raised interest rates, after a long period of monetary ease, and publicly criticized the expansionary stance of Federal fiscal policy (Berger and de Haan 1997). The government was planning increased spending to improve their standing in the 1957 election and therefore used its temporary veto over the next interest rate rise in March 1956. However influential members of the government, Economics Minister Erhard and Finance Minister Schaffer, supported the bank policy against Adenauer, the Chancellor, in order to maintain price stability. These Ministers also sat on the Central Bank Board and voted for yet another interest rate increase in May 1956. Together with the Bank, they were publicly denounced by the Chancellor. But public opinion was against Adenauer and he was obliged to back down. More expansionary fiscal policy would not be accommodated by monetary policy and

therefore it was less likely to reduce unemployment sufficiently to boost re-election chances.

A similar conflict emerged ten years later. From 1964 strong expansion driven by domestic demand was compounded by sustained wage growth faster than the rise in productivity. Inflationary pressures were greater than at any time since the Korean boom. The Federal government's budget deficit increased and the current account deteriorated. Again a strong correction was imposed by the Bundesbank through discount rate hikes between 1965 and 1966, against the protests of Cabinet members. The 1967 'mini-recession'—the first episode of negative growth experienced by West Germany since 1945 – was the result (Holtfrerich 1999, 378-80).

Recent interpretations regard Bundesbank's switching from tolerance of inflation in 1961-64 to a restrictive stance in 1965-66, in conflict with the Federal government, as a new episode of institutional rivalry. Marsh (1992, 186-8) and Leaman (2001, 138-42) underline the opportunistic behaviour of the German central bank. According to this view, pre-eminence given to inflation-fighting should be evaluated against a broader political context, and could be interpreted as an attempt to demarcate the central bank from government's responsibilities for rising inflation, as well as a decisive step in the Bundesbank's ascent to political and economic dominance.

Formal or legal central bank independence could have mattered less for policy than the brief or target assigned to the institution or their ignorance of policy impacts. This is suggested by the conflict between the Bank of England Governor and British Chancellor of the Exchequer, Peter Thorneycroft, (Finance Minister) in 1957. Bank Rate was raised to 7 percent in September, as inflation triggered short term capital movements that threatened the exchange rate (Cairncross 1996). Thorneycroft wanted to

increase his range of monetary instruments so that interest rates need not rise so high, adversely affecting industry and employment. He tried to persuade commercial banks to reduce their loans by five percent but they refused and the Bank of England Governor would not issue the directive.

Despite the nationalisation of the Bank of England in 1946, Thorneycroft lacked the authority to coerce the banks or dismiss the Governor, as he would have liked. Unemployment duly increased from autumn 1957 to a peak in November 1958. Reflationary measures, beginning in May 1958, were slow to take effect, but by the second half of 1959 were creating excessive expansion. No doubt this helped the re-election of the Macmillan government in October 1959. Removal of banking restrictions in the middle of 1958 almost doubled loans in the following three years. In addition there were tax concessions and greater public spending in the 1959 Budget. Bank rate was reduced from 6 percent in March 1959 to 4 percent in November. These measures interacted with each other to produce unexpectedly strong expansion of spending. The balance of payments began to cause concern as imports soared. And the first experiments with incomes policy were discussed, as limits to wage increases. The contrast with the German episode is more in the lack of coordination between the deregulation of banking and other policies, than in lack of central bank independence.

#### *4.2 Monetary brakes and the external constraint*

During the 1960s, in a significant group of European countries instruments of monetary policy—mainly the discount rate and the growth rate of money supply—moved in a direction (not necessarily with a magnitude) consistent with the external position. That is, interest rates increased and growth of the money supply fell during periods of

balance of payments deficit. This evidence is broadly compatible with monetary policy being flexible and effective, whereas fiscal policy was inflexible and inappropriate.

The IMF view was that countries affected by ‘temporary and reversible disequilibrium in the balance of payments...should not be expected to incur fluctuations in internal demand and activity’. Rather, they should pursue ‘policies aimed at attracting appropriate equilibrating movements of private capital through international coordination of interest rates’. But coordinating such policies between sovereign governments was a considerable challenge (Chalmers 1972). Pursuing domestic policies that maintained the confidence of internationally mobile capital turned out a surer bet.

Domestic monetary policy might offset contractions triggered by the balance of payments. When international reserves, a central bank asset partly balancing the liability of domestic money, fell without a change of policy, the domestic money stock would normally decline. However policy could, and did in the 1960s, counteract this effect by increasing central bank holdings of domestic assets, government bonds and bills in particular, made easier by copious government borrowing. But the exchange rate and the foreign reserves to support it, were not protected by this ‘sterilisation’ operation. Sterilisation therefore meant more balance of payments crises, which could force exchange rate re-alignments.

The external constraint was binding for all governments, irrespective of their ideology. In Franco’s Spain, still operating under a semi-autarkic regime in the late 1950s, inflation was fuelled by populist wage measures taken to stem political unrest and uncontrolled creation of liquidity by the Bank of Spain. This led in 1959 to a mounting current account deficit and the virtual exhaustion of reserves. Assisted by the IMF and the OECD, the regime accepted to devalue the Peseta and to implement an orthodox package of fiscal adjustment and monetary restriction (Carreras and Tafunell

2004, 325-35). In Italy, three years later, inflationary pressures at a peak of the expansionary cycle, a current account deficit approaching 4 per cent of GDP, and massive capital flights (also caused by untimely nationalization of electric utilities), urged the Bank of Italy to implement a credit squeeze. The devaluation of the Lira was avoided at the cost of a sudden contraction of economic activity (De Cecco 1964; Fratianni and Spinelli, 1991: 509-516). For those governments too timid to put on the brake when inflationary pressure accumulated, the only alternative in the end was reluctantly to accept exchange rate changes, such as in the cases of the 1967-69 devaluations of the Pound and the French Franc (Eichengreen 1996, 125-8, and 2007, 233-41, Patat and Lutfalla, 1990, 207-10).

But 'stop' policies could fail too. In West Germany in 1970-71 the Bundesbank's attempt to curb domestic liquidity and control rising inflation by using restrictive monetary and credit policies was swamped by massive inflows of foreign capital attracted by high interest rates. To allow the Bundesbank to regain control of the money supply, floating was judged a more feasible solution than an escalation of administrative capital controls (Emminger 1977, 28; von Hagen 1999, 404-419).

#### *4.3 Stop-go: responding to unemployment*

The recession of the mid 1970s brought to an end the post-war epoch of stability: 'stagflation'—rising unemployment and inflation—marked the next decade or more. In fact inflationary pressures, fuelled by high wage demands of trade unions and sustained expansion of governments' expenditures, had become evident in most European economies from 1970. But no longer was policy constrained by the pegged exchange rates of Bretton Woods and attempts to control inflation with tight monetary policies in 1972-73 were soon abandoned. In the short run, both in the USA and in Western Europe



fiscal and monetary policies accommodated the oil shock, interpreted as transitory negative shocks to aggregate supply. Increasing budget deficits and government debt, fast money growth and low or even negative real interest rates dominated until the early 1980s.

Pro-active responsiveness to adverse shocks contributed to the creation of unusually large inflation differentials between European countries. One group, anchored to West Germany, switched earlier to price stability and learned coordination between fiscal and monetary policy—not without conflicts between the two arms of governments. The other, including Britain, France and Italy, was reluctant to abandon full employment as their main policy objective, and preferred the expansion followed by contraction of ‘stop-go’ policies, rather than acknowledge the constraint that international capital mobility and confidence placed on their choices.

A policy innovation to contain rising wages and prices was to persuade unions and firms to limit these increases to less than a specified annual percentage. These ‘corporatist’ pattern of economic policy-making, based on “the co-ordinated, co-operative, and systematic management of the national economy by the state, centralized unions, and employers” (Siaroff 1999), succeeded in containing inflation where it had developed into a basic feature of the ‘postwar settlement’, such as Austria, Germany or Scandinavia. Here governments’ commitment to rising living standards with economic growth policies and planning, was reciprocated by wage restraint in the knowledge that such moderation would allow higher investment and therefore high future living standards (Eichengreen 1996). But in countries with different political traditions and institutional setup, the ‘postwar settlement’ failed in the face of mounting inflationary expectations. Prices and incomes policies in the UK, France and Italy (in the two latter as part of indicative planning) were ineffective in controlling inflation for more than

very short periods on those occasions when policies could be agreed (Ulman and Flanagan 1971).

The classic example of a Keynesian policy response is the British fiscal expansion of 1972-73. Following four disappointing years of low growth, rising unemployment and mounting cost inflation and in the cycle trough, the British government increased spending and cut taxes significantly. The abandonment of external equilibrium as a policy objective was announced by the Chancellor of the Exchequer, who declared that 'it is neither necessary nor desirable to distort domestic economies to an unacceptable extent in order to retain unrealistic exchange rates' (James 1996, 239). Recovery of growth and employment in 1972-73 was therefore accompanied by a new bout of inflationary pressures, the worst deterioration of the current account in the postwar period and a new external crisis forcing Sterling out of the 'Snake'.

In spite of the removal of the balance of payment constraint by floating the exchange rate, growth remained slow and both unemployment and inflation kept rising. The end of demand-led growth policies came with the 1976 IMF crisis, when in order to obtain a loan to support the balance of payments, the Chancellor of the Exchequer was obliged to write a Letter of Intent to pursue 'sounder' economic policies. By then, Labour Prime Minister Callaghan recognized that the option to 'spend your way out of a recession' was no longer feasible (Budd 1998, 275-76).

On the Continent however this notion had yet to spread. French policymakers proved the most reluctant to abandon demand expansion policies. The anti-inflationary 'Plan Fourcade' of 1974-75, launched after the first withdrawal from the Snake, soon gave way to an expansionary 'Relance Chirac' leading to mounting budget and current account deficits, a new exit from the Snake, and the resignation of its proponent. The

'austerity plan' of the new prime minister, Raymond Barre, temporarily succeeded in achieving external balance and controlling the budget and inflation. But unemployment rose and even the gains that had been made were wiped out by the second oil shock and the 1980 Socialist victory in the presidential election. The newly elected government, facing a global downturn, embarked on a programme of nationalization to promote investment and heavily increased government spending. Under the 'Plan Mauroy', the budget deficit reached 3 percent of GDP, the continuous devaluation of the exchange rate failed to reduce the mounting current account deficit, and inflation remained around 10 per cent. Within eighteen months capital flight forced a reversal of policy. A stable exchange rate could not be maintained with such fiscal expansion. Between 1983 and 1986 a new 'austerity plan', under the management of Jacques Delors, eventually achieved disinflation, although unemployment had reached 2.4 million at the end of 1984, four times greater than ten years earlier (Estrin and Holmes 1983; Patat and Lutfalla 1991, 232).

These over-ambitious aggregate demand policies were driven not only by mistaken economics but also by political party competition for the votes of electorates. Hence it is reasonable to wonder to what extent the political orientation of Western European governments influenced their economic policies.

Parties want to be reelected but they could also have ideological commitments that appeal to only a section of the electorate. Debtors might be inclined to vote for left wing parties and creditors for right wing representatives, on the grounds that left wing parties are expansionary and inflationary while right wing parties pursue contractionary policies in the interests of price stability. Supposing this to be so, and bearing in mind that the outcome of elections are often uncertain, when a left wing government wins an election, average expectations of inflation over the next year or two are likely to be

lower than chosen by the new government, insofar as there was some chance that a low inflation right wing government could have been elected. Inflation expectations before an election are based on averaging the policies of the possible governments weighted by the likelihood of their election. So long as inflation expectations are lower than actual inflation, real wages will be reduced and labour demand will expand. Eventually expectations will catch up with reality and the cycle upswing will stop. The converse is the case for the election of a right wing government in this 'Rational Partisan' theory (RPT) of business cycles.

The case of the French Socialists is consistent with RPT. In a period of world recession (1981-83), the Mitterand government at first pursued expansionary policies, keeping French economic growth positive, while many other major industrial economies were in a recession (Alesina 1989). The Swedish Conservatives (1976) also offer a particularly good fit to the theory. In Sweden, output growth fell strongly from 1975-76 to 1978, consistent with inflation expectations being above the government's target.

#### *4.4 Taking on inflation*

The 1980s saw the increasing acceptance of conservative macroeconomics by policy makers in the US and UK; especially the belief that there was no trade-off between inflation and unemployment. Most of Western Europe shared in the recession of 1980-82 but the urgent task of eradicating inflation left governments with little countercyclical leeway. Especially in most inflationary countries, increasingly independent central banks carried out their task of 'taking on inflation' with unprecedented tight money. Monetary authorities pushed nominal and real interest rates

up to record high until 1983, often in the face of inconsistent fiscal policies (Ciocca and Nardozzi 1996).

Pegging European weak currencies to the DM within the EMS proved a successful mechanism for disinflation. By 1985 inflation in countries with past records of loose money and irresponsible budgets had substantially converged to the German rate. By anchoring to the Bundesbank, European monetary authorities could 'buy' part of her anti-inflationary reputation (Giavazzi and Pagano 1988)., Perhaps helped by falling oil prices from 1986 as well, inflation was gradually squeezed out of the cycle over the decade of the 1980s. The Single Market initiative was probably also a benign supply side shock.

New domestic equilibria emerged based on the gradual relaxation of wage and pension indexation, and novel relationships with trade unions that helped control wage dynamics. Unemployment fell when either unions were forced to cooperate by legislative changes, as in the United Kingdom, or when they chose to cooperate, as in the Dutch Wassenaar Agreement of 1982. In this Agreement, the unions moderated wage demands and in return management committed to expand part-time employment (Nickell and van Ours 2000). Government tax concessions were made for part-time employment and public sector employment and wages were cut. Wage tax rates were reduced so that a lower nominal wage increase was required to maintain household incomes. Employment grew and real wage growth in the Netherlands was similar to the United States'.

Less successful was West German government policy at the end of the decade, certainly turning what could have been a positive supply stimulus for Europe into a massive and sustained negative shock. With the breaking down of the Berlin Wall in 1989, the Cold War ended. The Soviet client states of Eastern Europe were allowed to

abandon their experiment with central planning, and shift to markets. Had Chancellor Kohl managed economic aspects of German reunification with the perspicacity shown half a century earlier by Ludwig Erhard, European economic history would have been transformed.

In July 1990 the Germanies were united monetarily at a rate of one for one Ostmarks to Deutschmarks for two months wages and two Ostmarks for one DM above that amount. Unfortunately the low productivity of the East German economy meant that this exchange rate massively overvalued East German labour and assets. Prices were controlled in former East Germany, creating a large new market but with impossibly low productivity. The currency conversion rate bankrupted eastern financial institutions. The burden of supporting a large population rendered unproductive by the terms of the monetary union pushed up unemployment.

This negative shock was superimposed upon what seemed to be a successful system of pegged European exchange rates, the EMS. Then the 1992 crisis forced the UK and Italy off what was effectively the DM peg, but other economies managed to stay in. UK exports and economic activity generally began to expand while those of France stagnated. Momentum for a single currency was nevertheless maintained and the Euro was introduced for eleven countries on 1 January 1999.

## **5. Business cycles in Eastern Europe and Russia, 1945-2006**

### *5.1 Cycles under Central Planning*

The USSR and the command economies of Eastern Europe, boasted that their economic systems were free of the periodic bursts of higher unemployment, swings in output and

price instability, characteristic of the traditional western cycle. Central planning of production and distribution, together with state ownership of all productive resources, according to Loshkin (1964), succeeded in replacing “the cyclical character of development which is organically inherent in capitalism” with “unswerving, continuous growth.”

With the Soviet national accounting systems and state control of information, this claim is not easy to evaluate. Levels of economic activity in Soviet systems were harder to measure than economic growth rates, and official data were censored . Nevertheless, large fluctuations of output growth rates (but not of employment) seemed to be characteristic of planned economies too, as suggested by Figure 5.

FIGURE 5 HERE

This cyclical output pattern arose almost certainly because of shocks, such as harvest failure, and because of the information and coordination challenges intrinsic to resource allocation in any large complex system. Absence of scarcity prices meant that there was a very limited role for monetary or fiscal policy. Policy was implemented instead by direct commands and controls. The changing phases of efforts to fulfill Plan targets were a significant source of fluctuations. At the end of the period pressure, to attain planned output could accelerate production and reduce quality, or bottlenecks in the system required the planners to apply the brakes (Kornai 1992 pp186-193).

Besides this timing element, the system of capital grants provided without interest by the state, and the legal framework (absence of bankruptcy), favoured expansion of business over contraction. The allocation mechanism was biased towards dividing capital grants into smaller grants for various projects, for central planning

tended to provide a similar amount to every project, failing to focus on especially attractive projects and ignore those with poorer prospects.

Consumption and investment targets were announced long before they were achieved, which might have increased the speed of adjustments and contributed to shorter cycles compared with market economies, in addition to the five year plan planning horizon (Hutchings 1969). Kantorovich (1990) identified as the driver of cyclicity of growth rates mistakes in the allocation of investment. These triggered imbalances and declining capital utilization rates, which in turn caused the fluctuations. Examples of these mistakes were the over-fulfilment of plan targets in the Khrushchev era of 1957-64 for heavy industry and under-achievement in the consumer sector. In the following Brezhnev, and successors, period to 1985, plans for industry tended to be less ambitious and more scientifically based. But information deficiencies ensured that they continued to be inconsistent and therefore subject to continual revisions during plan implementation. This was a potential source of output fluctuation, but more importantly also of slow productivity growth, which widened the lag behind the western economies (Davis 1999).

### *5.2 Cycles in the post-1989 transition*

The Communist Party elite chose Mikhail Gorbachev as General Secretary in March 1985 to implement reforms that would correct the many problems of the previous "stagnation era", while maintaining the Communist system. Gorbachev's economic reforms were unsuccessful, with the consequence that industrial performance and living standards deteriorated. Economic collapse ignited deep-seated ethnic and regional grievances. The ensuing political reaction exploded in a coup attempt of August 1991 and the subsequent dissolution of the USSR along with its international system. Russia



and Eastern Europe's transitions to market economies brought them distinctive shocks that continued to ensure their economic experiences diverged from Western Europe's.

As shown in Figure 6, after a period of collapsing output, the transition economies among the Central and East European Countries (CEEC) began to catch up with the West, achieving high rates of economic growth. However the former Soviet Union (FSU) generally followed a different path, with divergent patterns of prices and unemployment (Boeri and Terrel, 2002). Underlying these paths, the shocks and their transmission processes differed for a number of reasons; proximity to Western Europe both geographically and culturally, plus the opportunity to join the EU, appear to be critical.

FIGURE 6 HERE

Whereas the 'Washington consensus' of the World Bank, the IMF and influential US academics and policy-makers, favored a 'big bang' approach of sudden transition to markets and private enterprise, the Copenhagen criteria that had to be satisfied for eligibility for EU membership were more concerned with institution building, convergence and stability. 'Washington' and 'Copenhagen' combined seemed tolerably effective for most of the CEEC. 'Washington' alone, as applied to the FSU in the 1990s, looked considerably less so.

In spite of moderate economic growth in the CEEC, unemployment increased quickly and stayed high. Regulation and particularly labor market policies were responsible for high unemployment rates, especially minimum wages and unemployment benefits. Those with low skills did not find jobs because the wage floor was above what they could contribute to an employer. In addition, benefits discouraged

employment because they were a “negative subsidy”; the state took away benefits if people started working. Accordingly, excessive benefits often were blamed for creating a “poverty trap” and for fostering the black economy, especially in eastern Germany. Rising employment from the mid 1990s in the Baltic States, that took regulatory reform most seriously, is consistent with this interpretation.

Financial stability was a major concern of the transition; after a big financial shock, inflation rates fell quickly in the CEEC; high convergence with German rates was achieved by the turn of the century. For some of these economies, the synchronicity of their fluctuations with the Eurozone countries also increased (Artis et al. 2004). EU accession (8 CEEC joined in May 2004, and Bulgaria and Romania in 2007), fostering trade and foreign direct investment, contributed and also helped to enhance the quality of institutions (Andreff 2004). Improved institutional quality was much needed. Becoming a EU member state was not an end of the transition to a fully fledged market economy.

In contrast in Russia, which dominated the FSU, the Gaidar government implemented a transition policy of privatization, liberalization and free markets. They were impressed by the 1990 Polish “shock therapy” programme, but the impact in Russia was very different. The policy shocks cut Russian gross industrial output by 40 per cent in six years, as shown in Table 8. Most of this production decline was genuine rather than attributable to measurement error. Such a collapse of industrial output during peacetime in a major economy was unprecedented over the twentieth century. While the measurement of output must be subject to some controversy, there is no question that the most vital element of welfare, the health of the population, collapsed along with recorded production.

At the same time, inflation dropped from well over one thousand percent in 1992 through to 1997, but unemployment rose in every year as well. Although aspects of economic performance had improved, they could not prevent the crash of August 1998. This was precipitated by falling oil prices and by the Asian economic crisis, but policy errors and internal weaknesses in the economic system – perhaps 70 percent of economic activity was conducted through barter- dragged down the Russian economy. The equity market bubble burst first, the stock market index dropping from the peak of 450 to 50 in August 1998. Unwise investments and speculative activities of most major Russian banks increased their vulnerability to shocks. So when in August the Kiriyenko government permitted the ruble exchange rate to crash and failed to service the government's debt (the GKO's), the banking system was paralyzed. Russian banks refused to honour forward exchange contracts with Western banks and inflation jumped to over 80 per cent (Davis and Foreman-Peck 2003).

TABLE 8 HERE

The slump of 1998-9 showed that a rapid transition in Russia on the basis of the Washington consensus had failed. At the root of the problem was a weak and corrupt state, which had allowed mass privatization and expropriation of lucrative state assets with an ineffective legal system. Persistence of bureaucratic control on the other hand ensured the continuation of rationing. Soft budget constraints for government fuelled inflation, the flight from money and a barter economy. All this remained to be reformed if recovery was to be achieved.

A major contributor to the different paths in CEEC and the FSU was political stability. In 1991 the "Russian Coup", the arrest of President Mikhail Gorbachev, and

the breakdown of the “Emergency Committee”, were not a good start to the transition process. The increasing power of ‘oligarchs’, who benefited from privatization under Boris Yeltsin, created substantial political instability. Many companies paid no taxes at all and a tax collector’s life was very dangerous. Insecurity was a breeding ground for high crime rates and widespread corruption, exacerbated by irregular payment of pensions, wages and benefits, which weakened demand.

A lower exchange rate, and a rising oil price, respectively restored the competitiveness of Russian industry and replenished the state coffers from 1999. At the same time the authority of the central state was reasserted under Vladimir Putin. Yet in appointing Gref, a liberal reformer, Putin ensured that Russia remained committed to a market economy, and was duly rewarded by a long upswing of production and productivity during the eight years of his Presidency.

## **6. Conclusion**

The new millennium opened with much more of an international consensus about the potential and proper application of macro-economic policy than was apparent at the end of the Second World War. Economists and policy-makers had learned from history. Ambitions for state action were generally reduced, particularly for demand management with fiscal and monetary policy—or even with exchange rate regimes. ‘Stability’ remained the watchword.

On the one hand the supremacy of markets over state plans for delivering goods and services was established. On the other, periodic unemployment associated with business cycles, as well as structural unemployment, had not gone away in Western Europe and had returned in the East. Shocks had not disappeared; the ‘sub-prime’

financial crisis beginning in July 2007, linked with the oil and other commodity price hikes, indicated the recession of 2008-9 was likely to be especially severe and widespread. Financial innovation without appropriate regulation had created some very vulnerable structures, raising risk perceptions and interest rates.

The market fundamentalism of the Washington consensus had been demonstrated inadequate in Russia without the appropriate supporting institutions. Fiscal policy had proved too rigid an instrument for general demand management. Monetary policy was more flexible and therefore more appropriate in normal times for smoothing the business cycle. In this respect the new policy orthodoxy resembled that under the late nineteenth century gold standard, without the link between money and gold. In addition confidence abounded that another Great Depression could be avoided by prompt action by the monetary authorities to prevent collapses of large financial institutions.

Keynesian economic management was not responsible for the rapid growth of 'the golden age'. Nor were monetarism, independent central banks and replacement of policy discretion by rules entirely to be credited with the stability of the Great Moderation of the 1990s. But much of the volatility of the 1970s and 1980s could be attributed to policy extravagances.

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## TABLES AND FIGURES

**Table 1**

### Currency regime of 16 Western European countries, 1950-2007

	Time on pegged exchange rate (%)	Peg to US\$	Peg to UK£	Peg to DM	Currency union (Euro)	Peg to Euro
Austria	96,5	1953-59		1959-98	1999-	
Belgium	94,7	1954-55		1955-71	1999-	
Denmark	100,0	1950		1951-71, 1978-98		1999-
Finland	71,9	1950-51, 1967-73		1973-92, 1993-98	1999-	
France	89,5	1956-71		1971-73, 1974-98	1999-	
Germany	47,4	1954-71, 1972			1999-	
Greece	96,5	1950-81		1984-98	1999-	
Ireland	100,0		1946-79	1979-98	1999-	
Italy	86,0	1951-73		1983-92, 1993-98	1999-	
Netherlands	100,0	1950-71		1971-98	1999-	
Norway	0,0					
Portugal	87,7	1950-1973		1981-98	1999-	
Spain	100,0	1951-80		1981-98	1999-	
Sweden	71,9	1952-73		1973-92		
Switzerland	70,2	1950-73		1981-88		
UK	43,9	1950-72		1991-92		

Note. Definition based on ‘de facto’ classification by Reinhardt and Rogoff (2004) and related background material. Pegs include: pre-announced peg or currency board, pre-announced band narrower than or equal to +/-2%, de facto peg, pre-announced and de facto crawling peg and crawling band narrower than or equal to +/-2%.

**Table 2**

**Quinn Index of capital liberalization, 1950-2000**

	1950-60	1960-70	1970-80	1980-90	1990-2000	Year of full liberalization	Temporary controls after liberalization
Austria	12,5	62,5	62,5	75	87,5		
Belgium	75	75	75	75	100	1990	1996-98
Denmark	37,5	75	75	75	100	1988	
Finland	12,5	12,5	50	50	100	1994	
France	62,5	75	75	75	87,5	1998	
Germany	75	100	100	100	100	1957	1973, 1978-80
Greece	25	50	50	50	75	1997	
Ireland	50	50	75	75	100	1992	
Italy	37,5	75	75	75	100	1988	1990-92
Netherlands	75	75	75	100	100	1983	
Norway	37,5	37,5	37,5	62,5	100	1990	
Portugal	25	25	37,5	37,5	87,5		
Spain	12,5	50	50	75	75	1999	
Sweden	12,5	62,5	62,5	75	87,5		
Switzerland	100	100	100	100	100	1950	1964-65, 1974-78
UK	50	50	50	100	100	1979	

*Note.* Index of liberalization of capital account transactions. Scoring ranges from 0 (full restriction) to 100 (full liberalization). See details in Quinn (2003). Reported values are median score by decades. We gratefully acknowledge Dennis Quinn for sharing his data.



**Table 4**

**Recessions: duration and amplitude, 1960-2006**

	Recessions	Duration (quarters)	Amplitude (in %)			Time in recession (%)
			average	max	min	
Switzerland	13	3,31	-0,47	-2,79	-0,02	23,4
Greece	16	2,5	-1,23	-3,47	0,28	21,7
Germany	10	2,6	-0,39	-0,93	-0,06	14,1
Italy	8	3,13	-0,35	-0,97	-0,12	13,6
Denmark	9	2,67	-0,47	-0,97	0,13	13,1
Sweden	8	2,88	-0,56	-1,09	-0,21	12,5
Finland	8	2,88	-0,2	-0,65	0,39	12,5
Portugal	7	3,14	-0,7	-1,99	-0,09	11,9
UK	7	3,14	-0,53	-1,23	0	11,9
Belgium	6	2,83	-0,38	-0,75	-0,05	9,2
Spain	4	3,5	-0,27	-0,71	-0,11	7,6
Netherlands	5	2,4	-0,78	-1,67	-0,26	6,5
Austria	5	2,4	-0,18	-0,51	-0,06	6,5
France	2	3,5	-0,39	-0,49	-0,29	3,8
Norway	1	2	-0,41	-0,41	-0,41	1,1
Ireland	1	2	-0,11	-0,11	-0,11	1,1

*Note.* Based on the non-parametric method of Harding and Pagan applied to quarterly real GDP data. Source: OECD. Countries are ranked according to the time spent in recession: duration in quarters time number of recessions divided by the number of quarters in the period observed (184).

**Table 5****The Great Moderation in Western Europe**

	1950-73	1974-93	1994-07
	output gap volatility		
Austria	2,8	1,09	0,73
Belgium	1,22	1,22	0,65
Denmark	1,51	1,38	0,74
Finland	1,82	2,37	1,01
France	1,16	0,99	0,64
Germany	2,5	1,21	0,74
Greece	2,11	1,62	0,35
Ireland	1,48	1,59	1,22
Italy	1,33	1,29	0,68
Netherlands	1,77	1,04	0,93
Norway	0,92	1,25	0,67
Portugal	1,65	2,2	1,15
Spain	2,39	1,11	0,65
Sweden	1,03	1,28	0,84
Switzerland	1,81	1,85	0,83
UK	1,27	1,5	0,31
<i>mean</i>	1,67	1,44	0,76
<i>variance</i>	0,30	0,16	0,06

**Table 6****Synchronization of European cycles**

	method: correlation (Pearson)		
	1950-73	1974-93	1994-2007
<b>first principal component</b>	<b>0.36</b>	<b>0.45</b>	<b>0.63</b>
second principal component	0.50	0.62	0.75
third principal component	0.61	0.73	0.83
	method: covariance		
	1950-73	1974-93	1994-2007
<b>first principal component</b>	<b>0.35</b>	<b>0.45</b>	<b>0.70</b>
second principal component	0.56	0.61	0.81
third principal component	0.69	0.74	0.88

*Note.* First principal component of output gap cycles of 16 European countries. See sources and details in Note to Fig. 1



**Table 7**

**German dominance?**

<b>Synchronization of cycles with Germany</b>			
method: correlation (Pearson)			
	1950-73	1974-93	1994-2007
Switzerland	0,06	0,56	0,90
Italy	0,16	0,81	0,87
Netherlands	0,13	0,87	0,87
Austria	0,79	0,66	0,82
France	0,57	0,67	0,79
Belgium	0,49	0,63	0,78
Spain	-0,20	0,32	0,75
Denmark	0,44	0,58	0,70
Sweden	0,36	0,28	0,69
Finland	0,39	0,13	0,65
Portugal	0,00	0,55	0,62
UK	0,21	0,35	0,60
Ireland	0,15	0,37	0,55
Norway	-0,04	0,35	0,17
Greece	-0,16	0,64	0,06
mean	0,22	0,52	0,65
variance	0,08	0,04	0,06

**Table 8**

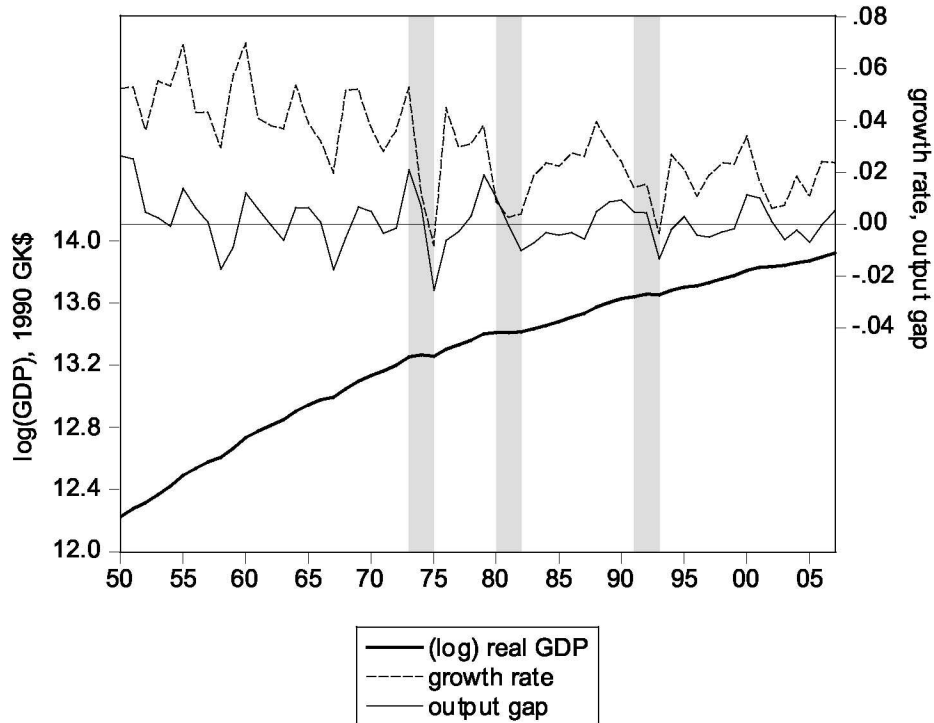
**The Russian economy during transition. 1992-99**

<i>Indicator</i>	<i>Units</i>	1992	1993	1994	1995	1996	1997	1998	1999
GDP growth	%	-14.5	-8.7	-12.7	-4.1	-3.4	0.8	-4.6	2.0
Industrial Production	1991=100	82	71	55	54	52	53	50	54
Investment/ GDP	%	23.9	20.4	21.8	21.3	21.2	19.4	17.6	15.3
Unemployment	%LF	4.8	5.3	7.1	8.3	9.2	10.9	12.4	12.6
Consumer Price	%	1526	875	311	198	48	15	28	87

*Note.* Data from Davis and Foreman-Peck (2003).

**Figure 1**

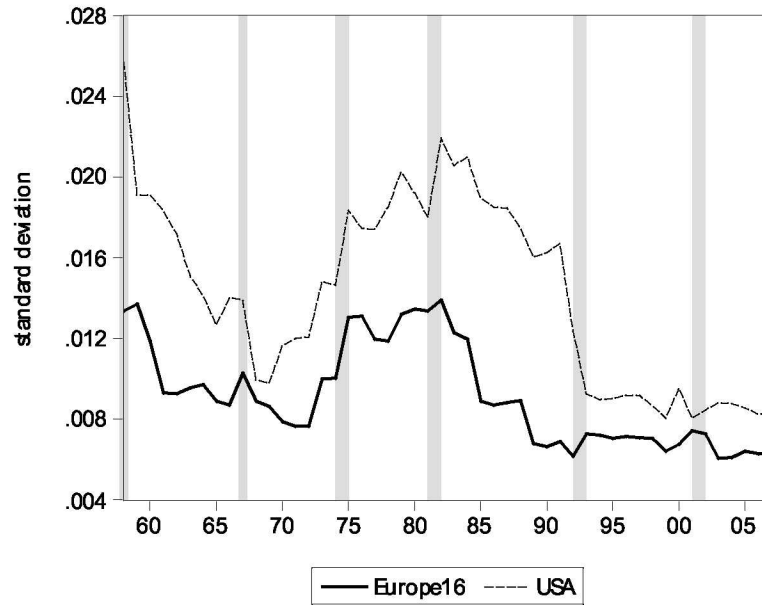
**The European cycle, 1950-2007**



*Note.* Data from The Conference Board and Groningen Growth and Development Centre, Total Economy Database. Weighted real GDP of 16 European countries (weights are each country's share); includes Austria, Belgium, Denmark, Finland, France, West Germany (unified Germany after 1990), Greece, Ireland, Italy, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, UK. GDP is expressed in 1990 Geary-Khamis \$. Growth rate is year-to-year change in log(GDP). Cycles (output gap) are deviations from trend obtained by Hodrik-Prescott filtering with smoothing parameter 6.5. Recessions are denoted by shadowed lines.

**Figure 2**

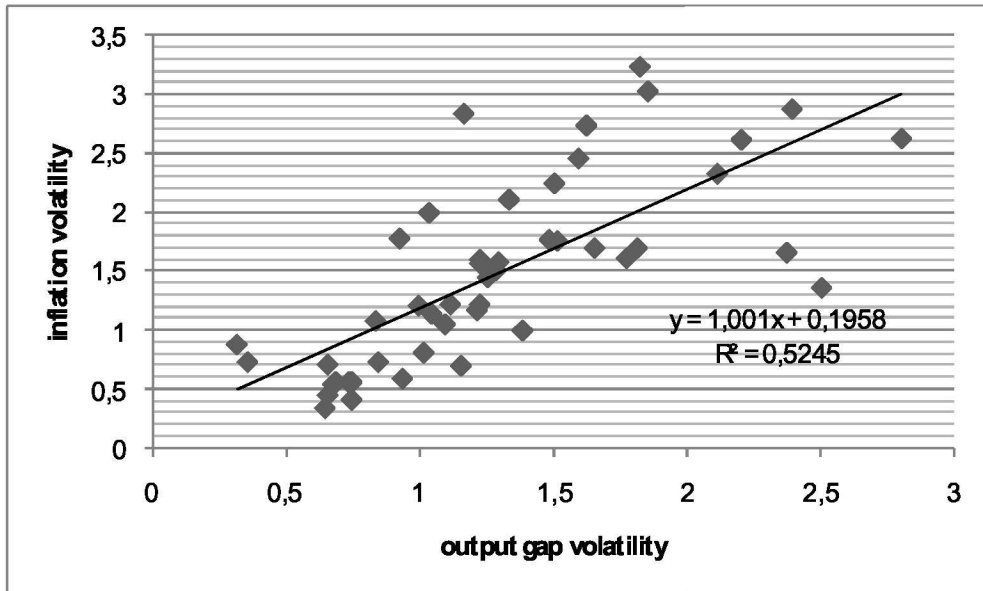
**Transatlantic Great Moderation**



*Note.* Time-varying volatility of output gap. Values for each year are calculated as a ten-year rolling window ending in that year

**Figure 3**

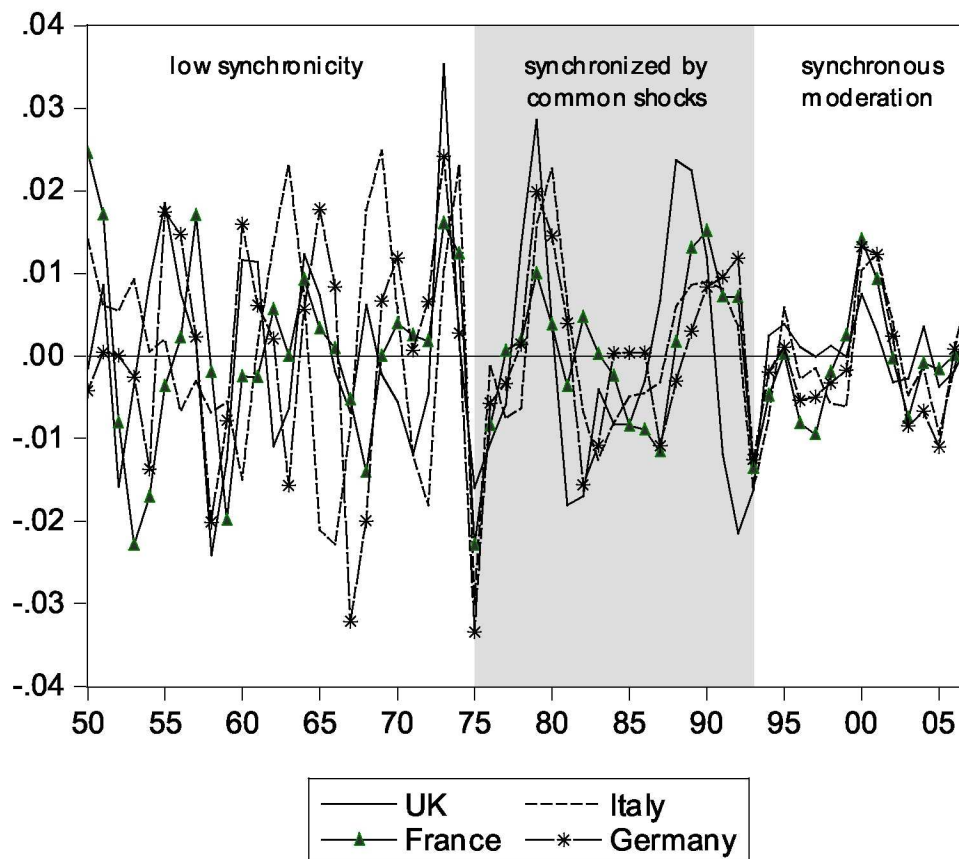
**Inflation and output gap volatility, 1950-2007**



*Note.* Inflation volatility: standard deviation of consumer price index annual inflation in 16 Western European countries in the periods 1950-73; 1974-93; 1994-2007. Output gap volatility: standard deviation of output gap in the same periods. Data: CPI indexes from IMF, International Financial Statistics. Real GDP from Total Economy Database.

**Figure 4**

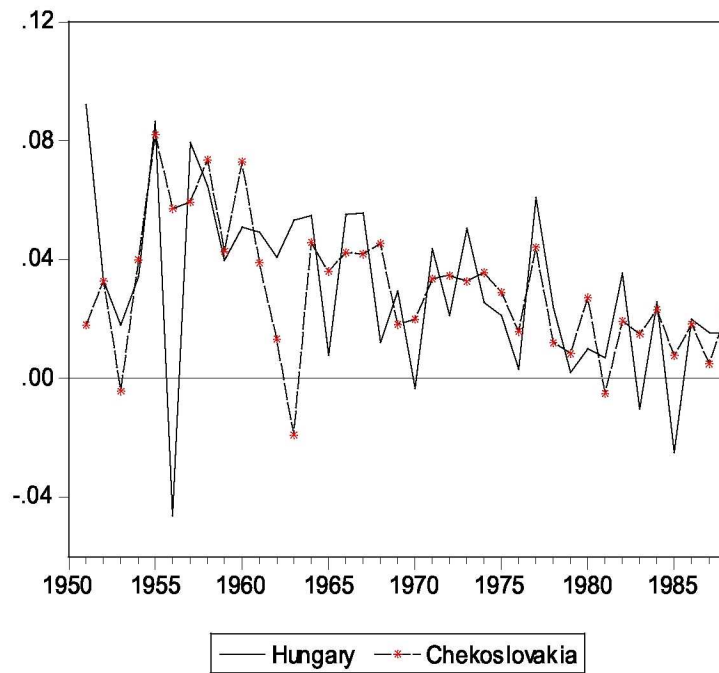
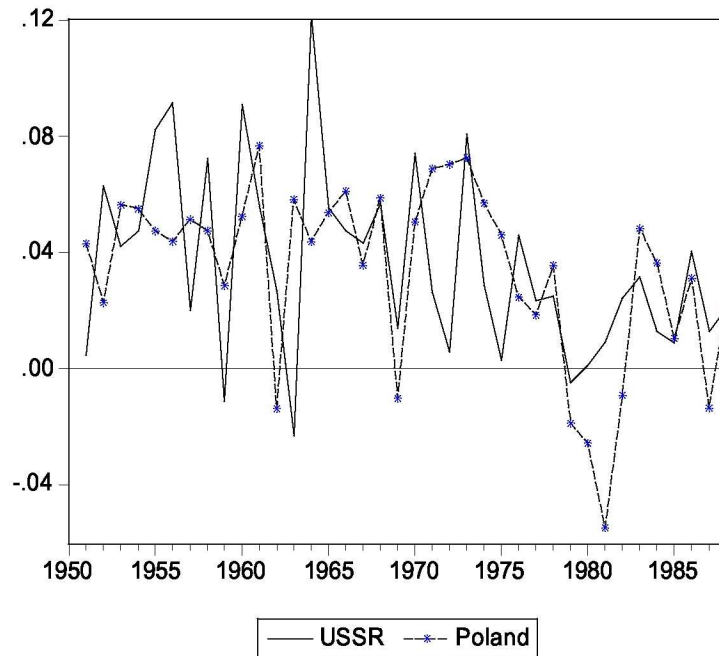
**Increasing synchronisation of main European cycles**



*Note.* Output gap based on (log) real GDP. Source: see Figure 14.1

**Figure 5**

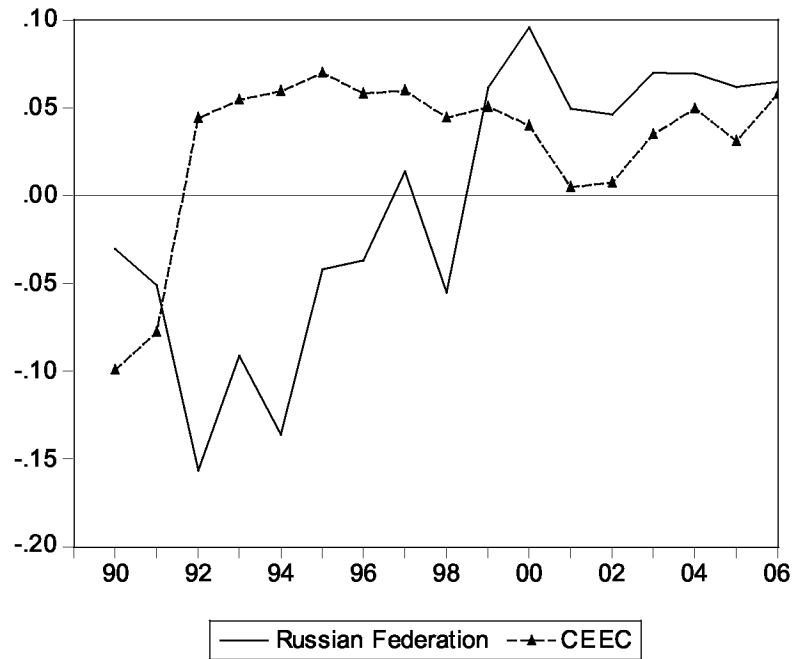
**Cycles Soviet-style 1950-1988**



*Note.* Annual growth rate of (log) real GDP. Data from Total Economy Database.

**Figure 6**

**Growth Rates in the Transition**



*Note.* Annual growth rate of (log) real GDP. Data from Total Economy Database. CEEC is weighted GDP of 15 CEEC countries (weights are each country's share in total GDP); includes Albania, Bosnia Herzegovina, Bulgaria, Croatia, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Macedonia, Poland, Romania, Serbia Montenegro, Slovak Republic, Slovenia. GDP is expressed in 1990 Geary-Khamis \$.