

# THE RATE OF INTEREST, INVESTMENT, GROWTH AND PUBLIC DEBT

## SUMMARY AND CONCLUSIONS OF A STUDY FOR THE AUSTRIAN FEDERAL MINISTRY OF FINANCE

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### 1. Objectives

Ever since the late 1970s, industrialised countries have seen the rate of interest hovering permanently above the rate of growth, after three decades in which it had been below the growth rate. This "regime change" in macroeconomic financial conditions caused the non-financial business sector to shift its activities from real to financial investment. As a consequence, corporate debt grew at a slower pace than GDP, while at the same time the public debt climbed at an above-average rate.

The main purpose of this study was to examine the effects of interest rate fluctuations on the distribution of earnings in the non-financial business sector, especially on the distribution of the operating surplus between the companies and their creditors, on the propensity of companies to incur debts and make real investments, on overall economic growth and the development of budget deficits and public debt.

### 2. Key findings of the study

#### 2.1 Interest rate fluctuations, investment demand and the budget deficit over the business cycle

The greater part of financial liabilities incurred by the business sector is made up of bank loans at flexible interest rates. The cost of financing future and – even more important – past investments, i.e. the capital stock, is thus to a higher degree influenced by the bank lending rate (prime rate) than by the (long-term) interest rate on bonds.

This point has been disregarded in the literature, empirical analyses of the link between the interest rate and investment dynamics typically concentrate on the interest rate on bonds. Economic policy similarly tends to overlook the plain fact that the (expected) development of the lending rate will

usually have a greater impact on a company's propensity to invest than the development of the interest rate on bonds.

The lending rate of banks, essentially determined by the central bank (through variations of the discount and lombard rate), is subject to much greater fluctuations than the interest rate on bonds. Its instability increases the uncertainty as regards the profitability of an investment, thereby dampening the willingness of companies to accumulate real capital as well as financial debt.

Relative variations in the (nominal) lending rate are noticeably greater than those in the (nominal) productivity of capital: when the interest rate rises, interest payments of a company will grow much more strongly than total profits (operating surplus), with a consequent income shift in favour of creditors (Fig. 1). This contradicts the assumptions of equilibrium theory, according to which the interest rate reflects the marginal productivity of real capital so that interest rate fluctuations do not affect the distribution of profits between companies and their creditors.

Variations in the lending rate have a major impact on income distribution between entrepreneurs and "rentiers" because they change ex post the financing cost of the entire stock of real capital and debts: thus if the lending rate rises from, say, 5% to 6.5%, then interest payments will rise ceteris paribus by 30% ("interest accelerator").

Provided that wages and the financing structure of the business sector are relatively stable, then the counter-cyclical development of the entrepreneurs' interest payments and profits will mean that the return on equity and the effective interest rate will develop in a similarly counter-cyclical manner. This finding is, however, contrary to what is postulated by equilibrium theory.

Over the two- to three-year phases of rising and falling interest rates, we find the following business response pattern (described for the case of a rising interest rate):

- When the interest rate rises during a boom period, interest payments strongly increase as a result of the "interest accelerator"; consequently the companies' earnings position and their return on equity deteriorate (Fig. 1).
- Companies will nevertheless continue with scheduled investment projects and will therefore increase their lending: the debt-to-earnings ratio shoots up.
- When the central bank continues to pursue a restricted interest policy, the earnings and financial position of companies will further deteriorate, and roughly two years after the initial rise in interest rates business will start restricting investments, borrowing and employment (Fig. 1).
- In the recession, for which this response pattern was a contributory factor, the financial deficit of companies will fall while the budget deficit will rise sharply because of the "automatic stabilisers", and interest rates will decline, mainly due to the lifting of restrictions on monetary policy (Figures 1 and 2).

Looking at the three countries covered by the study (US, Germany and Japan), we can indeed find that, in the period since 1960, the budget deficit grew most strongly during recessions, which were regularly preceded by a sustained increase in interest rates which in turn induced a decline in investment.

A similar sequence is typical for the recovery: the budget deficit declined most sharply during cyclical upswings which were regularly preceded by marked drops in the interest rate.

Hence, on empirical grounds, persistent rises in the rate of interest, mainly due to the policy of the central bank, are rather causes for a cyclical widening of the budget deficit than vice versa.

## 2.2 The interest rate, the growth rate and the public debt in the long run

The companies' propensity to investment and raise loans, and with it the relative importance of their real and financial accumulation in the course of long-term development, is essentially governed by the relationship between the rate of interest and the rate of growth.

When the interest rate is lower than the growth rate, debtor sectors, such as business or government can spend more on capital investment than what they save (before deducting interest payments), i.e. they can maintain a primary deficit without having their debt (necessarily) rise more rapidly than GDP. Under these conditions, an equilibrium in macroeconomic financing is obtained only when the households achieve primary surpluses (= difference between household saving and interest income) of an extent which corresponds ex ante to the primary deficits of business and government. In this case, net liquid assets will constantly flow from the households to the debtor sectors.

When the interest rate is higher than the growth rate, then business and government need to achieve primary surpluses if their debts are to grow not faster than GDP, i.e. their net borrowing must be less than the interest payment on their "old debts". An intersectoral and intertemporal financing equilibrium will be obtained when the households save less than they get in interest income and if their primary deficit corresponds ex ante to the primary surplus of the debtor sectors (net liquid assets will flow from companies and government to the household sector).

Until the late 1970s, the lending rate and the interest rate on bonds were lower than the growth rate (Fig. 1). Households saved more than they received in interest payments; their primary surplus was roughly as high as the primary deficit maintained by the companies (Figures 1 and 2). With the primary government budget in balance, public debt did not grow faster than GDP (Figures 3 and 4). In the business sector, the primary deficit and, with it, the propensity to invest were so high that the companies' real capital stock and their net debt grew slightly faster than GDP (Figures 1 and 2).

Since the late 1970s, the lending rate and interest rates on bonds in industrialised countries have been constantly above the growth rate; the share of wages and of interest in overall income declined, the latter mainly due to a decline in the rate of inflation and consequently also in the

(nominal) rate of interest; companies, however, used their profits, which were growing at an above-average rate, not for extending their real investments but for reducing their net borrowing (Fig. 1): this was done so extensively that the primary balance of the business sector "switched" to a permanent surplus (Fig. 2). Governing factors for this appear to have been not just the companies' wish to keep the growth of their debts below that of GDP, but also the higher profitability of financial investments and the greater chances to profit from short-term speculative transactions in financial markets, especially for futures and options: financial assets of the non-financial business rose markedly faster than financial liabilities (Fig. 1).

Under these conditions, companies reduced their real investments to a greater extent than would have been necessary to stabilise their debts in proportion to GDP; their real capital stock and their financial liabilities grew correspondingly slower than the overall economy (Figures 1 and 2). With real capital formation curbed, job growth declined as well; this in turn has contributed greatly to the rise in unemployment since the end of the 1970s (Figures 3 and 4).

Even when faced with a positive interest-growth-differential, private households maintained their primary surplus, saving more than they received in interest income, so that their financial assets grew more rapidly than GDP (Fig. 2).

With primary surpluses continuing in the business and household sector, the government has suffered an increase in its primary deficit ever since the late 1970s (even though public investments declined relative to the GDP: state savings declined even more due to the greater expenditure for the unemployed and a slower growth of tax revenues). The connex is underlined by a comparison between the respective primary balances of the companies and the government (Fig. 2): since the late 1970s, the primary balance of the business sector "switched" to a surplus in all countries studied, while the government's primary balance produced a deficit.

Given the persistent positive interest-growth-differential, the public debt has, since the end of the 1970s, grown more rapidly than the overall economy in all countries investigated.

### **3. US and European budget policies since the early 1990s**

Considering the flow-of-funds-based "diagnosis" of the public debt problem as developed in the study it may be deduced that its "therapy" will be the more successful the more it concentrates on promoting the companies' propensity to invest and to borrow (especially by reducing interest rates relative to the growth rate) and the more it curbs savings by private households in proportion to their expenditures for consumption.

In other words: the rise of public debt and unemployment has a common cause – inadequately dynamic real accumulation – and must therefore be combated jointly (for the parallel development of unemployment on the one hand and public deficits and debts rate on the other, in particular since the switch from negative to positive interest-growth-differential, see Figures 3 and 4).

Contrary to the findings of this study, the neoliberal "diagnosis" fingers excessive expenditures of government, made primarily by discretionary policy measures, i.e. "voluntarily", as the prime culprit for the rise in public debt. The neoliberal "therapy" thus sees its main measure in reducing public spending, especially in the welfare sector.

Differences in the respective effectiveness of the "systemic" and the neoliberal consolidation strategies are discussed by looking at the American and European budget policies since the early 1990s.

In 1990, the US Federal Reserve cut the discount rate to its lowest post-war level and maintained it there for more than three years, raising it again very gradually during the following upswing. The relaxed interest policy in the US, combined with the high-interest policy pursued by the Bundesbank, made for a constantly undervalued dollar. Under these conditions, investments, exports and the economy as a whole have grown constantly and strongly since 1991; and, in contrast to the 1980s, the interest rate level was only just above the medium-term growth rate.

Between 1989 and 1992, the Bundesbank raised the discount rate to its highest post-war level, thereby increasing the interest rate level in all of Europe (Figures 3 and 4). This policy was a major cause not just for the collapse of the system of fixed exchange rates in Europe but also for the severity of the 1993 recession: interest payments of the German business sector rose dramatically (by more than DM 45 billion in 1989 to 1992); this in turn worsened its financial position and thereby contributed to the marked decline in investment in 1993 (Fig. 3). Exchange rate turbulences since 1992 have furthermore slowed down intra-EU trade in general, and exports by the hard-currency countries in particular.

Under these conditions, the differential between interest rates and the growth rate in the main EU countries was even larger than in the 1980s (Figures 3 and 4).

Since the Clinton Administration took office, economic policy in the US has been following an expansive overall strategy, aiming to fight the two key problems – public debt and unemployment – simultaneously ("Toward Full Employment with Fiscal Responsibility" is the title of a chapter in the *Economic Report of the President 1995*, which outlines the new strategy). This policy shift is most clearly reflected in the consolidation strategy pursued since 1993.

The federal budget was primarily consolidated by contributions from the top income bracket: its marginal tax and social security rate was raised from 31% to 42%. As this group has a relatively low propensity to consume, this strategy weekend aggregate demand only slightly. At the same time, the negative income tax (state payments to households with annual earned incomes of less than US\$ 24,000) was greatly extended, thereby stimulating effective demand since those on the lowest rungs of the social ladder spend almost all of their income on consumption.

Budget consolidation in the US thus was designed to check household savings rather than consumer demand, by changing the tax scale so that income is now more extensively redistributed from the top down.

In contrast, most European governments tend to focus on the expenditure side in their efforts to consolidate the budget, preferably by cutting social security benefits. With such benefits accruing primarily to groups with a high propensity for consumption, this type of consolidation slowed down household consumption relative to their saving to a greater extent than in the US. It was for this reason that consumer demand in Germany grew much more slowly in 1994/95 than during any other post-war upswing; this in turn contributed significantly to the fact that economic recovery was stopped in its tracks already in 1995 (Figures 3 and 4).

American and European economic policies also differ with regard to their inflation goals. The Federal Reserve tolerates an inflation rate of about 3%, not least because measured inflation overestimates the actual rate and because it also helps stabilise the real interest rate at a level just above the growth rate. The Bundesbank, on the other hand, aims to achieve an absolutely stable price level (when the measured inflation rate is 0%, the lending rate and the long-term interest rate are necessarily above the growth rate).

Its coherent monetary and fiscal policy, embedded in an expansive overall strategy, made for economic growth in the US of a scope sufficient to reduce both unemployment and the public debt relative to GDP (the deficit of general government declined from almost 5% of GDP in 1991 to 1.5% in 1995).

In Europe, an austerity policy that neglected the circular-flow effects, in combination with the Bundesbank's high interest policy and the resultant shifts in exchange rates, was instrumental in the rise of unemployment and public debt, especially in Germany (Figures 3 and 4). Throughout the European Union, the public debt has been rising faster since the Maastricht criteria were agreed (1991) than in any other five-year period after the war (Fig. 4). At the same time, medium-term economic growth was for the first time since the early 1950s noticeably lower than in the US.

#### **4. Conclusions for economic policies**

The "systemic" character of the public debt problem highlighted in the study, and the budgetary experience of the early 1990s point to the conclusion that the problem is most effectively handled within the scope of an expansive overall strategy which combines monetary and fiscal policy measures aimed at implementing two main goals:

- Parallel action in expanding the financial deficit in the business sector, curbing surpluses in the household sector and reducing the budget deficit;
- Boosting the medium-term growth.

The better we can realise both goals the greater will be the decline in both unemployment and public debt.

The main sub-goals of this overall strategy are, on the one hand, promoting real investments by companies relative to their financial investments (which should also encourage their propensity to incur debts) and, on the other hand, strengthening household consumption relative to their saving.

In view of the close interrelationship between European national economies, it would be more effective to have an EU-coordinated reorientation of economic policy rather than national strategies by individual countries; this is particularly true for the monetary "components" of an expansive overall strategy:

- Interest policies pursued by the central banks (or the future European Central Bank) should be oriented along the expected mid-range growth rate (the Federal Reserve changed course already in the early 1990s).
- The lending rate level should not be far above, preferably slightly below, the expected growth rate, in order to expand the maneuvering room for financing business investment.
- If the central banks or the European Central Bank were to declare that stabilising the interest-growth-differential at a low or slightly negative level was a key objective of their policy, this would strengthen corporate confidence in the sustainability of external financing and thereby increase their propensity to invest (as they would not have cause to fear those enormous increases in interest payments which, through the "interest accelerator", have time and again deteriorated their financial position in the past 20 years).
- A marked reduction in the European interest level would also contribute towards correcting the undervaluation of the dollar and overvaluation of the European hard currencies.
- Overcoming the exchange rate instability within the EU is another "component" of the expansive overall concept; not least for this reason, European monetary union will stimulate growth in exports, investments and overall production in the long run.
- The introduction of a common European currency would also help alleviate global currency turbulences, as it would involve stabilising just two key exchange rates: Euro to Dollar and Euro to Yen.

Even a marked reduction in the European interest level would not suffice to stimulate economic growth sufficiently to make for a significant decline in unemployment and public debt (especially in the hard currency countries), primarily because of the low inflation rate: even if the central banks in the hard currency countries (de facto the Bundesbank) were to reduce the discount rate to almost 0% (as is the case in Japan), the lending rate would still be slightly above the growth rate (at present the German prime rate is about 6% at a discount rate of 2.5%).

Provided that the interest-growth differential, while diminished, is still positive, the business sector will still achieve (possibly lower) primary surpluses. When the state is to achieve primary surpluses without effectively checking economic growth, the primary balance of the household sector must change from surplus to deficit, i.e. household savings must decline relative to their interest income.

This requires consolidation measures which specifically redistribute income of households with high interest earnings and a high propensity to save to the government. These high-income households respond to a decline in their net earnings mainly by cutting down on saving, as opposed to the low-income households which are forced to restrict their consumption to a relatively greater extent.