entER
for
mic Research

Discussion
paper

TILBURG UNIVERSITY
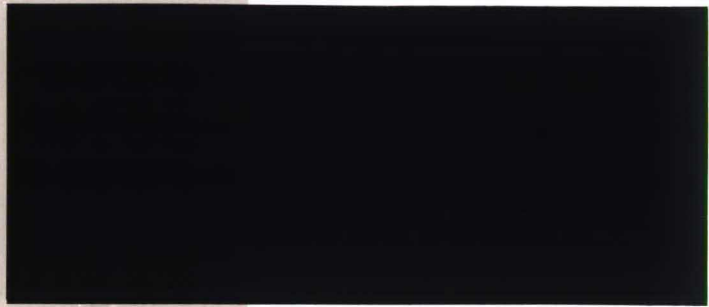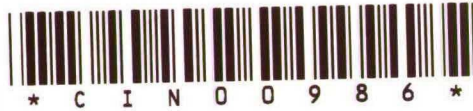
No. 9049

**SAVING, INVESTMENT, GOVERNMENT FINANCE
AND THE CURRENT ACCOUNT: THE DUTCH EXPERIENCE**

by Hugo A. Keuzenkamp
and Frederick van der Ploeg

R 23
338.2
(492)

August 1990

SAVING, INVESTMENT, GOVERNMENT FINANCE

AND THE CURRENT ACCOUNT:

THE DUTCH EXPERIENCE [*]

Hugo A. Keuzenkamp and Frederick van der Ploeg

CentER, Tilburg University

P.O. Box 90153, 5000 LE Tilburg, The Netherlands

ABSTRACT

The problems the Dutch economy has experienced during the last seven years are discussed, problems for future development of the Dutch economy are pin-pointed, and the political-economic debate in the Netherlands is surveyed. Ten rules for sound government finance are formulated and it is argued why the political reality of budget cuts has led to crowding out of government investment. The result is that government productive assets have not kept up with the explosion of government debt, so the net worth of the public sector has declined since 1982. Dutch monetary policy is geared towards the discipline of not using seigniorage for government finance and pegging the guilder to the Deutschemark, which is sensible given the large outstanding stock of nominal government debt. Consumption smoothing suggests that given liberalised capital markets investment should be financed through the current account of the balance of payments, but little evidence can be found for this. This may be due to the "structural budget deficit" rule, which has been implemented by Zijlstra.

July 1990

————————

CONTENTS

1. Introduction

Apart from a very short interval in 1982 the Netherlands have been governed by a central-right coalition since 1978. During the first four years Mr. van Agt was prime minister. This coalition was secured with 76 of the 150 seats in parliament. This period was marked by a sharp increase in unemployment and quickly deteriorating government finances. Halfway during its term, the Minister of Finance, Frans Andriessen, quit after a quarrel in which he insisted on further restrictions on government spending whereas his colleagues did not give him sufficient support. In 1981 a central-left government took over, but was unable to agree on its policies. Government finance deteriorated further and so did unemployment. New elections in 1982 brought a gain of ten seats for the conservative-liberal party, VVD, and a small loss for the centrist Christian Democrats (CDA). They formed a new coalition under Mr. Ruud Lubbers as prime minister and former banker Dr. Onno Ruding as Minister of Finance. The program of this government strongly emphasised the need for sound government finances, and a recovery of the market sector to beat the unemployment problem. The Lubbers government was more convinced and convincing on its goals than its two predecessors. Hence, Mr. Lubbers secured a second term of office after the election on 21 May, 1986 and was able to continue to focus on his policy of sound government finance. In this election the CDA gained 9 seats and became the largest political party with 54 seats. Despite the fact that the VVD lost 9 seats (a return to 27 seats), a CDA-VVD coalition government continued. However, some fatigue with this policy started to occur as budget discipline deteriorated during the course of the second government of Lubbers and Ruding. The Labour Party was with 52 seats the second largest political party, but remained out of office again.

On the night of 2 May, 1989 the VVD forced a break in the coalition over the finance of the National Environment Plan, but this was probably the last drop in the bucket as there had already been a period of dissatisfaction of the VVD members of parliament with their ministers who had lost sight of some VVD principles and had to sell their liberal souls to the CDA, and Mr. Lubbers in particular, on too many occasions. Given almost twelve years of being out of the office the leader of the PvdA, Mr. Wim Kok, can be forgiven when he

joked that from now on the PvdA will celebrate the second, rather than the first day of May. The election results of 6 September indeed show a loss for the VVD-CDA coalition: although the CDA kept its 54 seats, the VVD lost 5 seats which gives only a one-seat majority in parliament to these two parties. The result was a CDA-PvdA coalition with Mr. Lubbers as prime minister and Mr. Kok as Minister of Finance. This coalition still faces a number of unpleasant constraints to device a new unemployment policy and to face up to the problem of environment at a time when government finances are in a deplorable situation.

There are many constraints for Dutch unemployment policy, but the main ones are financial constraints and the associated lack of government investment (cf., Keuzenkamp and van der Ploeg, 1990a, b). We strongly believe that there are possibilities for an effective reduction of unemployment despite perceived financial and other constraints. This is an issue that has occupied the minds of politicians, journalists and economists in the Netherlands during the last decade. Section 2 reviews the debate, pin-points the areas of concern for the future development of the Dutch economy, and pays attention to the composition of the pool of unemployed and hysteresis phenomena, which together with the bad state of government finance are the main problems facing the Dutch economy. Generally speaking, it reviews the development of the Dutch economy in the eighties. Section 3 uses the theory of tax smoothing to derive ten rules for sound government finance and argues that most of these have been violated by Dutch governments of the last decade. In fact, formation of productive government assets has not kept up with the explosion of government debt so that the net worth of the public sector has declined since 1982. Deficits have thus been used to finance transfers and other forms of government consumption rather than government investment. This has been the unfortunate political reality of budget cuts in the Netherlands.

Section 4 discusses the policies conducted by De Nederlandsche Bank. The rigid pegging of the guilder to the Deutschemark has bought an excellent reputation for monetary discipline. Inflation is now the lowest in the OECD, but this may have been at the expense of an explosion of government debt. The trade-off between discipline and giving up an independent instrument of monetary policy is discussed. Section 5 points out that, given that capital markets in the Netherlands are fully integrated with world capital markets, investment should be financed through the current account of the balance of

payments. In general, smoothing of consumption means that temporary falls in income must be accommodated through current-account deficits, i.e. borrowing from the rest of the world. Unfortunately, Section 6 shows that there is little empirical evidence of consumption smoothing for the Netherlands, since investment seems to be constrained by domestic saving. This worrying state of affairs may be due to institutional restrictions or, alternatively, due to the "structural budget deficit" rule advocated and implemented by Zijlstra in the fifties and sixties. Section 7 concludes the paper.

2. The Dutch economy in the eighties

In our introduction we already mentioned the most salient facts of the Dutch economy in the last decade. High unemployment, a high government budget deficit, a steady surplus on the current account, very low inflation and a stable exchange rate vis-à-vis the Deutschemark characterised the Dutch economy. Let us first turn to unemployment. Figure 2.1 shows unemployment percentages (national definition) and the ratio of long-term unemployed to total unemployment in one graph. The international economic depression that started with the second oil crisis and the tight monetary policy in the US in 1979 led to an unprecedented rise in unemployment. The Dutch economy is more vulnerable to external shocks than nearly any other Western economy. Moreover, it relies heavily on petrochemical industries (Rotterdam). Furthermore, profitability of the private sector had weakened during the seventies. Figure 2.2 shows how the profit share in the economy steadily decreased during the seventies and picked up in spectacular fashion during the eighties. Unemployment soared to a peak in 1983 of 12 per cent of the labour force (standardised OECD figure). This was well above the EEC or OECD average, despite very low participation rates (especially for women). In the mean time, long-term unemployment started to increase. The tide turned in 1985 with the recovery of the international economy. As Figure 2.1 shows, unemployment decreased but long-term unemployment stayed at a high level. In fact, the minor decrease is due to the fact that a large share of long-term unemployed is close to the age of retirement, hence time is an important factor in the solution to the long-term unemployment problem. The main point, however, is that due to crowding out on the labour market the long-term unemployed are

mostly not very skilled and have become alienated. They no longer exercise downward pressure on wages. The appropriate response to such hysteresis phenomena is to provide training and schooling programmes, but the self-imposed financial straight-jacket for government finances has not allowed this.

The government's response to the unemployment problem was one of "benign neglect". A centrist-conservative coalition was in power from 1978 to 1989 (except for the years 1981-82). The policy agenda had a reduction of the share of government in the national income and of the government budget deficit on top, the labour market was thought to solve its own problems. The government urged for wage moderation to take a leading role in this process. As a result, within a decade the share of labour in value added fell by almost fifteen per cent. Unemployment benefits remained relatively generous, however, and had a near open-ended character so that government finances deteriorated rapidly. Furthermore, the Dutch government was opposed to active labour market intervention by means of training and schooling or school-leave programmes. Public spending on such items was negligible, also when compared with other European countries (Keuzenkamp and Van der Ploeg, 1989, 1990a). As a result of these factors, the long-term unemployed became more and more alienated from the labour market. Their downward wage pressure became less important, so that endogenous wage moderation became mere wishful thinking (see also Graafland and Huizinga, 1988).

Reduction of both the share of the public sector and the budget deficit was the single most important policy goal of the eighties. However, this policy was not too successful. Figure 2.3 depicts the government debt, net worth, and financial deficit of the public sector as percentages of GNP. The improvement of world trade and hence the Dutch economy since the mid-eighties led to a slight decrease in the deficit, but the debt/GDP ratio is still rising. Worse, if we take a look at the government balance sheet, we see that the net worth of the Dutch state collapsed since 1982 (Figure 2.3). Effectively, government debt exploded without a corresponding increase in productive government assets. The reason is that the financial deficits of the government were used for transfers and other consumption purposes rather than for investment purposes. Government investment halved between 1970 and 1989 (from 4.7 per cent of GNP in 1970 to 2.3 per cent in 1989)!

The excessive financial deficits violate public finance principles such as tax-smoothing. The collapse of government investment erodes the long-term strength of the Dutch economy (see Keuzenkamp and Van der Ploeg, 1990b). Another potential distortion caused by the government's burden on the capital market could be crowding out of private investment. However, as real interest rates are, due to the presence of fully liberalised capital markets, tied to foreign and in particular German real interest rates, this distortion cannot be blamed that easily on bad policies of Dutch governments.

The share of government in the economy (consumption, investment and wages, excluding credits and debt repayments) rose from 29.7 in 1971 to 35.9 in 1980 to a prospective 37 per cents of NNP in 1990. The increase has been slowed down or stopped, on the one hand (as mentioned before) as a result of decreasing investment spending and on the other hand due to autonomous wage moderation in the public sector. Whether this wage moderation is still sustainable is an open question: for example, currently tensions are building up in the health care sector where it is hard to attract new entrants to the work force.

One motivation for the would-be policies of "sound government finance" has been fear of international insolvency or a credibility crisis. The solvency argument is for the Netherlands rather far fetched, though. Even though net government worth plumbed, the government is far from insolvent (see again the very conservative estimate of net government worth in Figure 2.3). Furthermore, from an international perspective the Netherlands are in a favourable situation of considerable surpluses on the current account of the balance of payments (Figure 2.4). Insolvency of the Dutch economy seems to be the very last problem to worry about. Exchange rate stability and inflation are other items on which the Dutch economy scored well. Inflation belongs to the lowest in the world, the guilder-Deutschemark rate is close to becoming a natural constant (Figure 2.5). Between 1980 and 1989 the guilder depreciated slightly vis-à-vis the Deutschemark and the dollar. The dollar appreciated strongly between 1980 and 1985, but since then the bubble bursted. The yen appreciated with nearly 75 per cent, the pound sterling and the French franc depreciated 25 to 30 per cent.

On the ground of unit labour costs the Dutch economy has scored extremely well during the last decade. Figure 2.6 shows how, during the seventies, unit labour costs (measured in national currencies) in the Netherlands rose

slightly more than in Germany and the US, since 1980 this pattern reversed. Competitiveness improved also compared with Japan, given the appreciation of the yen.

The economic agenda for the nineties is somewhat different from the last decade, as a centrist-left wing coalition took over at the end of 1989. The social-democrats, the PvdA, had a program of "investing in the future", by which it meant to recover government investment as well as recovering lost human capital due to long-term unemployment. Still, the new coalition faces severe budget constraints, the government accounting system does not distinguish consumptive and investment spending. Furthermore, fears for crowding out private investment by government borrowing are not yet gone. One of the issues we discuss in our contribution is to see if these fears are warranted, given the opening of international capital markets. We will conclude that it is very hard to make a strong case for the imposition of such a self-imposed external constraint.

Another item high on the policy agenda is further monetary and economic integration. To see whether monetary integration imposes an external constraint, we evaluate the recent past of tying the guilder to the Deutschemark. Furthermore, we discuss how economic integration may lead to international tax-wars, not unlike the devaluation-wars that characterised the 1930s.

3. Short-sightedness in budgetary policies of Dutch governments

3.1 Financial constraints in the Netherlands

During the last twelve years the public sector deficits have led to a steady rise in government debt and in debt service, as Figure 2.3 shows. After the fall of the Christian-Democrat Labour coalition in 1977 government finances started to deteriorate. The second oil crisis did not help to improve government finances. Basically, increasing gas profits did not outweigh the decline in tax benefits. Also remarkable is that the first Lubbers government apparently was more successful in turning the tide than the second one; from 1983 to 1986 the deficit decreases but afterwards the government seems to

loose grip on its expenditures. Some further details on government finance can be summarised as follows:

- the public sector financial deficit fluctuated around 3% of NNI until 1978, from this year onward the deficit rose steadily to 9.4% in 1983. In 1988 the deficit still is twice as much as the average for the early seventies. The public sector borrowing requirement includes repayment of debt and has increased even more dramatically: from 1.6% in 1970 to 11.1% in 1987 and 10.5% in 1988.

- As a result, government debt increased from a steady 40% during 1973-1977, to nearly 80% of NNI in 1987 (the most recent available figure).

- Interest payments on government debt therefore rose from roughly 2% to about 7% of NNI. For comparison, this amounts to 60% of the government wage bill, and there is a serious threat that other expenditures are crowded out as a result of debt servicing.

It is therefore no surprise that a consensus has emerged in the Netherlands to stabilise the government debt as a percentage of national income, so that the fall in debt service allows more room for productive government expenditures. But the way in which this has been implemented has, in our view, not been thought through very well. First we will take a look at the proposals made by the Studiegroep Begrotingsruimte. According to the 1986 Government Agreement the financial deficit should drop to 5¼% by 1990. Afterwards, three possibilities can be considered: (i) no further reduction in the financial deficits; (ii) further gradual cuts towards 3¼% by 1994; (iii) further gradual cuts towards 2¼% by 1994. Roughly speaking, these three alternatives correspond to a PvdA, CDA and VVD view, respectively. A real growth rate (n) of 2.5% and an inflation rate (π) of 2% are assumed. Table 3.1 then shows that a reduction in the financial deficit of 0.5% - 0.75% points per year is a necessary requirement for the ratio of government debt to national income to start falling during the period 1990-94. However, if there is no inflation and nominal interest rates remain the same, the rise in the government debt ratio will not be reversed unless the financial deficit is eventually cut to 2¼%. The Studiegroep Begrotingruimte (1989) therefore makes a strong plea for the financial deficit to drop to 2-3% of the national income. It also argues to force these cuts in financial deficits through something similar to the Gramm-Rudman-Hollings law for the US.

One can make a number of critical remarks about these proposals. To put them in perspective, consider a simple version of the government budget constraint :

$$\dot{d} = f-(\pi+n)d, \quad f = g - \tau + id - z_I \qquad (3.1)$$

where d and f denote government debt and the financial deficit, g and τ denote government expenditures (excluding debt service) and taxation, i denotes the nominal interest rate on government debt, z_I denotes the return on government investment, π denotes inflation and n denotes the real growth rate. The first criticism on the proposals to reduce f is very basic: there is no theoretical consensus on how important deficits really are. Romer (1988) investigates the costs of excessive deficits for the USA, and lists some views on the possible effects of government deficits. On the one extreme is the supply-side and Reaganomics view, according to which deficits resulting from reducing marginal tax rates are highly desirable as they reduce distortions and will probably pay themselves back in the long run thanks to higher incentives for economic growth. Then there is the Ricardian view, according to which deficits are rather unimportant. Rational agents anticipate higher future taxation resulting from an increase in current deficits and there will therefore be no net effect on total spending, because the decline in human wealth exactly off-sets the increase in non-human wealth. The reason is that the present value of future taxes is exactly equal to the rise in current taxes that would have been necessary if the government would not let its deficit rise today, so that the size of the deficit does not distort the behaviour of private sector agents. Alternatively, agents save more in order to meet future tax claims. Incidentally, the Ricardian view does not tell us anything about the **size** of the government sector, only about the indifference between tax and debt finance. Finally, there is the view that excessive deficits are distortionary, as a current deficit places a burden of taxation on future generations which seems "immoral". This argument (among others defended by Buchanan) is rather hard to understand, except if the deficits are primarily used for current consumption and thus crowd out investment in human or physical capital. What seems to be most important is the effect of government spending on economic growth, an issue that remains somewhat neglected in the discussion about

optimal government deficits. Study of this issue can also appraise the possibly beneficial effects of running counter-cyclical deficits on long-term economic prospects and growth.

These points lead to the second problem of the proposal of the Studiegroep Begrotingsruimte. That is, the analysis fails to take account of the intertemporal aspects of the government budget constraint (e.g., Buiter, 1985). The returns on assets have to be taken care of. Solvency of the government finances and (3.1) yields:

$$d(t) + {}_t\int^{\infty} [g_c(s) + g_I(s)] \exp[{}_t\int^{S} - r(s')ds']ds =$$

$$k_G(t) + {}_t\int^{\infty} [\tau(s) + z_I(s)] \exp[{}_t\int^{S} r(s')ds']ds \qquad (3.2)$$

where $r = i_d - \pi - n$ denotes the growth-corrected real interest rate, g_c denotes government consumption, g_I denotes government investment, z_I denotes the return on government investment, and k_G denotes the public stock of capital. The point is that, as far as government investment has the same return as the market rate of interest, it can be netted out of the intertemporal government budget constraint (3.2). The recommended reduction of the financial deficit to $2\frac{1}{4}\%$ (Studiegroep Begrotingsruimte, 1989) does not take full account of this point; it makes a lot of difference whether the cut in the deficit is achieved through cuts in government consumption, through cuts in government investment or through tax increases. In practice, the cut in the Dutch financial deficit has been accompanied by cuts in government investment which seems a rather short-sighted policy. It is a pity that since 1977 Dutch government accounting does not make a clear distinction between government consumption and government investment anymore. The political reasons are that ministers will try to claim that all their expenditures are investments, so that budgetary control may become more difficult. However, in practice government investment has fallen dramatically since 1977 (see Table 3.2). Many economists in the Netherlands now advocate the "golden rule of government finance", which says that firstly the government is allowed to borrow for investment purposes only to the extent that they bear the market rate of return and secondly that the amount of taxed levied should be high enough to finance government consumption and the interest payments on the initial government debt ($g_c(s) + i(s) d(s) = \tau(s)$, $s \geq t$). The desired or sustainable financial deficit is thus id + g_I -

z_I. Table 3.3 provides some information on government interest payments capital income and government investment. Since an important part of the proposed new government expenditures in the Netherlands are investment, witness the National Environment Plan, it is of the utmost importance that investigations into the intertemporal features of the government budget constraint are initiated. Ideally, one would like to calculate an estimate of the permanent deficit for the Netherlands (Buiter, 1985). This is the real perpetuity equivalent of the discrepancy in the government's ex-ante comprehense balance sheet, i.e., the annuity value of the present value of spending plans minus the net worth of the public sector, where net worth equals public sector assets minus public sector debt plus the present values of taxes and seigniorage and public sector capital formation. Privatisation of public assets, such as the Dutch State Mines, or privatisation of student loans do not affect net worth if the revenues from the sale $(-\Delta k(t))$ exactly match the discounted value of the future incomes associated with these assets $(-_t\int^{\infty} \Delta z_I(s) \exp[-_t\int^S r(s')ds']ds)$. The Ministry of Education provides a very sad example of how to reduce the financial deficit in the wrong way. Education has been successful, since more people have participated in education in the last years. The total budget has been the same, so the sum available per student has gone down. This seems short-sighted, because education can be seen as an investment in human capital which to a large extent earns itself back. Even more serious has been the 40% discounts given when student loans from the past are immediately repaid. The idea is to help cut the financial deficit, but it completely ignores that a future Minister of Education no longer receives repayments. Such short-sighted measures fail to distinguish between cash-flow and assets and illustrate the lack of financial discipline that began to prevail under the second Lubbers administration.

Thirdly, it seems odd that the desired financial deficit is independent of the achieved inflation rate. Given that the De Nederlandsche Bank maintains a fixed parity of the guilder versus the Deutschemark, an increase in inflation in Germany will eventually lead to higher inflation in the Netherlands. For example, if inflation rises to 4.5%, then equation (3.1) shows that a financial deficit of 5.6% is warranted when one wants to stabilise the ratio of government debt to national income at, say, 0.8. Hence, it seems more sensible to advocate guidelines for the inflation-corrected

financial deficit, $\bar{f} = f - \pi d$, of, say, $\bar{f} = nd = 2\%$. If one substitutes f in (3.1), one obtains

$$\dot{d} = (i - \pi - n)d + g_c + g_I - \tau - z_I. \qquad (3.3)$$

From this it is clear that the impact of inflation on the debt ratio is zero as long as the real interest rate, $i - \pi$, and the ratios of government spending and taxes do not change with inflation. However, there is a negative correlation between the real interest rate and inflation, particularly on a world scale (the Mundell effect) and thus higher inflation may, for a given debt-GDP ratio, sustain a higher ratio of the primary deficit to national income, $g_c + g_I$. In addition, higher inflation may make it easier to cut the ratio of government spending to national income. Government debt is not indexed in the Netherlands. An unexpectedly low inflation therefore leads to excessive gains for capital owners. The current low rate of inflation leads to redistribution from tax payers to owners of government debt. These owners coincide partly with the common taxpayer (pension funds own large sums of government debt), but the extra gain for wealthy persons may be substantial.

Finally, it is true that the Netherlands have experienced a larger explosion in government debt than most other OECD countries (see Table 3.4). Only Belgium, Italy and Ireland now have a greater debt-GDP ratio than the Netherlands. However, the debt-GDP ratio in most other countries is under-estimated because no provision is made for future pensions to be paid by the government. For the Netherlands the government pension fund, ABP, has assets of 145 billion guilders (and a future actuarial liability of the same amount), which would reduce the debt-GDP ratio by almost 40% points. When one takes account of this difference, the debt-GDP ratio for the Netherlands does not seem so high compared with the other OECD countries.

Apart from the question what the optimal size of government debt would be, there remains the question what caused the recent increase in government debts. In an international comparison, Roubini and Sachs (1989) analyse this question. One of their conclusions is that difficulties of political management in coalition governments account for some of the growth of government debt ratios. Lack of consensus on economic policy may have accounted for the increase in the debt ratio in the late seventies and early

eighties. Indeed, the first Van Agt-coalition (VVD and CDA) and the short-lived second one (CDA and PvdA) lacked consensus on financial policies. These governments also experienced the highest increase in government debt. Only the first Lubbers administration was strongly directed to reducing the deficit. The second Lubbers coalition suffered from the loss of the VVD at the elections, perhaps this loss of popularity induced VVD-ministers to support some popular expenditures thus leaving the task of improving government finance to the CDA Minister of Finance, Mr. Ruding. Despite popular belief he lost grip on government finance. The last years of the CDA-VVD coalition witness a remarkable lack of financial discipline, which can also be seen from the fact that government spending is now already 9 billion guilders (2% of NNI!) higher than planned in the Budget of September 1988 (Sterks, de Haan and de Kam, 1989, see also the resulting discussion between them and Ruding in Economische Statistische Berichten).

We conclude that cuts in the financial deficit are desirable, but that in practice the cutbacks have worsened the mix of government spending at the expense of public investment in infrastructure, the environment and education. The worsening of the mix already occurred before 1977, when the revenues from Dutch gas explorations were mainly used for consumption purposes. The "government budget constraint" has never been a real constraint in the sense of being binding. Solvency is not the problem of the Dutch government, crowding out (of productive and other useful expenditure by interest payments) is. Sound government finance is a necessary condition for being able to implement environmental policies, labour market programs for reducing (long term) unemployment, and so on.

The second link between government finance and the labour market goes via taxation. From 1 January 1990 a simplification of the Dutch tax system ("Plan Oort") will come into force. The main ideas are to reduce the bureaucracy of filling in tax forms, to reduce the number of tax brackets from 9 to 4, to combine the national insurance contributions rate with the first tax bracket at a rate of 35% and a top bracket of 60%, and to abolish a number of tax-deductable expenses. In addition, the plan is to implement tax cuts in the order of 4.1 billion guilders or almost 10% of the total tax bill, but this may be less when the Labour Party gains a new coalition government and in any case a substantial part of it is meant to be financed by cutting tax-deductable expenses.

Table 3.5 shows that the wedge between producers' and consumers' wage is the highest in the OECD and this explains why Dutch governments have been very keen to reduce this. Due to the enormous scope for tax-deductable expenses, the average tax rate in the Netherlands is low compared with the rest of Europe (but higher than for the US and Japan). Marginal tax rates are, however, very high in the Netherlands and the proposed reform of the system will remove a large number of tax distortions. The problem is that due to the very generous pension system the premiums are extremely high compared with abroad, but then these lead to tangible benefits for those who pay for it.

Table 3.5 shows that the average wedge has risen steadily since the sixties. The marginal wedge for a married employee with two children was about 73% when in Germany and the OECD it was only about 56%. However, the average tax wedge (excl. social premium) was only 37.5% in the Netherlands, compared with 39% for the OECD.

3.2 Ten rules for sound government finance

Dutch governments have traditionally given up an independent monetary policy, because the guilder is firmly tied to the Deutschemark. In practice, this means that Dutch inflation (π) tracks German inflation (π^*) very closely. The disadvantages of tying one's hands to the policies conducted by the Bundesbank is that the Netherlands cannot use monetary policy for macroeconomic stabilisation and cannot use inflation taxes as a source of government revenues. The advantages are that the Netherlands ties its hands to the Bundesbank, so that it never uses an unanticipated inflation tax to accommodate demands for higher wages or to erode the real value of nominal government debt. The result is that in equilibrium inflation is lower than it would be otherwise. Recently, some commentators have been sceptical about the independence of the Bundesbank and thus some have argued that the Netherlands should not follow the increases in interest rates at all times.

Tax smoothing follows from minimising the costs of tax collection subject to the present-value budget constraint:

$$\underset{\tau(s)}{\text{Min}} \quad {}_t\!\int^{\infty} \tau(s)^2 \exp[-{}_t\!\int^{s} r(s')ds']ds \tag{3.4}$$

subject to (3.2)-(3.3) (cf. Barro, 1979). If government investment bears a market rate of return, one has:

$$\tau = r[d-k_G] + g_c^P \tag{3.5}$$

$$\dot{d} = (g_c - g_c^P) + g_I - z_I + rk_G \tag{3.6}$$

$$f = (g_c - g_c^P) + g_I - z_I + rk_G + (\pi+n)d \tag{3.7}$$

where the permanent level of government spending is defined as

$$g_c^P(t) = r(t) {}_t\!\int^{\infty} g_c^P(s) \; \exp[-{}_t\!\int^{s} r(s')ds']ds. \tag{3.8}$$

On the basis of the above equations, one can formulate ten rules of thumb for sound government finance:

1. The amount of government debt is only of historical interest. The interest burden on existing debt does not crowd out other public expenditure, as a high ratio of debt to GDP implies a high tax rate and a high deficit.

2. If policymakers choose to continue the current level of primary expenditures (total expenditure minus interest and repayments of principal), and if they do not want to make new investments, then it is optimal to stick with the current debt/GDP ratio ($\dot{d}=0$). The deficit will be equal to the inflation-cum-growth-tax on existing debt ($f=(\pi+n)d$).

3. Applying the theory leads to the result that a permanent decrease of primary expenditures lead to an immediate decrease of the tax rate without any effect on the deficit or debt-ratio. This means a balanced decline of the public sector.

4. If expenditures are temporarily above normal (for example resulting from unemployment due to a decrease in world trade), then it will be optimal to leave the tax rate unaltered, running a higher than normal deficit, increasing the debt rate ($s>0$). This is not the result of counter-cyclical Keynesian policy, although it is similar to it, but follows from

a tax smoothing policy. From this point of view, the rising debt-GDP ratio around 1980 might have been a sensible policy.

5. If, however, changes turn out to be permanent (for example, due to the alienation of the long term unemployed), then taxes must immediately rise, whilst the growth in the debt-GDP ratio must immediately be stopped ($\dot{d}=0$). This pessimism seems to underlie the recent recommendations of the IMF to increase taxes in the Netherlands.

6. If policymakers choose to increase permanent spending in the future, they will retire debt now, in order to create financial room for later years. This may lead to political business cycles (see e.g., Persson and Svensson (1989)).

7. Investment carrying a market rate of return can be netted out of the government budget constraint. There is no reason why a government should restrict investment expenditures in bad times, as happened in the Netherlands (see Table 3.2). In fact, the political economy of budget cuts is such that it is easier to cut government investment than to cut government current transfers.

8. If policymakers want to reduce primary expenditure, g, by x% per year, than one can show that the permanent level of g, g^P, lies below the actual level: $g^P = g[(r-n)/(r-n+x)]<g$. Hence, optimal policy is to slow down the decrease in tax rates and to run above-normal deficits.

9. If real interest rates are temporarily high (which seems to be the current situation), than it will be optimal to finance the extra costs by debt creation.

10. From a pure financial point of view, it does not make sense to sell government assets in order to improve government finances.

3.3 Political economy of budget cuts

The main feature of Dutch government finance has been that tax smoothing policies have not been used. The main result is that in the process of making the government's finances healthy, it has been easier for politicians to cut investment than to cut transfers or government consumption. The result is that the formation of productive government assets has not kept up with the explosion of government debt, so that the net worth of the public sector has

declined since 1982, the year in which the process of budget cutting under CDA-leadership was meant to start (see Figure 2.3).

In other words, financial policy of Dutch government has been characterised by an extreme degree of short-sightedness. One of the reasons is, of course, that politicians are motivated by short-term re-election considerations and thus prefer to spend rather than to invest. The minister of finance, Mr. Ruding followed by Mr. Kok, is faced with a large group of spending ministers and has not got enough power to force a healthy, far-sighted financial policy. This is why some people in the Netherlands now argue for a nucleus-cabinet consisting of the prime minister and the minister of finance, who can force such a number of spending ministers to take a longer run view. Such a re-organisation of ministers and departments can, of course, only happen at the time a new coalition government is being formed.

An alternative proposal is to distinguish sharply between a current account and a capital account in the government budget and to adopt a 'golden' rule of government finance: tax for permanent streams of government spending and borrow for temporary increases in government spending such as productive investment projects. The problem is that all kinds of definitional problems will arise, because each spending minister will claim its expenditures as a productive investment. Some investments are unproductive (missiles, road in Drente), whilst some consumption can be productive (education). The point is that it seems best to overcome short-run political restrictions and implement the rules of Section 3.2. This requires either a nucleus-cabinet or an independent accounting body which checks whether projects have a market rate of return and thus warrant government borrowing.

4. Monetary discipline and the advantages of a firm EMS-anchor

4.1 Monetary policy in the Netherlands

The latest annual report of De Nederlandsche Bank expresses satisfaction that the Delors Committee argues for a European System of Central Banks and eventually economic and monetary union that differs very little from the institutional structure of the Dutch central bank. On the whole all the main Dutch political parties are strongly in favour of increasing the process towards monetary unification in Europe and of establishing a European Central

Bank that is independent of the fiscal authorities. De Nederlandsche Bank and the Bundesbank enjoy, in contrast to the Bank of England and the Banca d'Italia, autonomy in the sense that they conduct a policy quite independent of the fiscal authorities. In other words, De Nederlandsche Bank will never allow finance of the public sector deficit by printing money and, indeed, seigniorage revenues in the Netherlands have been either negligible or non-existent. This is in sharp contrast to the countries of southern Europe. For example, central bank loans to the Treasury as a percentage of total debt are in 1987 14.6%, 7.2,%, 7.2% and 32.8% for Greece, Spain, Italy and Portugal, respectively, and non-existent for the Netherlands and Germany (Giavazzi and Pagano, 1989).

This is reflected in the fact that the main goal of De Nederlandsche Bank is laid down by constitutional law to be a stable price level and thus zero inflation. Table 4.1 shows that from this narrow perspective De Nederlandsche Bank has scored extremely well. Inflation has been less than one per cent and even lower than in Germany. Together with Japan, the Netherlands has the lowest inflation rate in the OECD. De Nederlandsche Bank is very much concerned about higher inflation because prices of non-energy raw materials rose by more than 20%, strikes and other labour disputes are on the increase, capacity limits are being reached, and productivity growth is levelling out. However, one can seriously ask whether a policy of near-zero inflation is not a mixed blessing. It may be that some inflation, as long as it does not get out of hand, may be desirable as this may lead to less unemployment (as an incomes policy may be easier to conduct) and as the stabilisation of the debt-GDP ratio may be easier due to erosion of the real value of nominal government debt, bracket creep in a progressive tax system and incomplete indexation of benefits and salaries of civil servants (also see Section 3). Dornbusch (1989) discusses the unpleasant side effects of the cut in inflation achieved in Ireland and some of these may also be relevant for the Netherlands. It is clear that to a certain extent the optimal rate of inflation is a political choice and may be different from zero. In any case, due to the emerging dangers of inflation (witness the rise of bank credit by 14% in 1988 and the rise of M2 in 1988, see Table 4.2), De Nederlandsche Bank has raised interest rates and has even imposed a new (more subtle) version of the old instrument of quantitative limits on bank lending. This may be a bit over-cautious, because Dutch consumers have on average a personal debt for consumption

purposes of 1700 guilders whilst German and US consumers have a personal debt of 4000 and 6000 guilders, respectively. Lack of credit availability for consumption and investment purposes may slow down the expected increase in economic growth. Given the fact that capacity in the Netherlands is lower than needed for full employment, it is rather odd that investment should be slowed down in this way. Credit constraints are unwarranted. A somewhat higher rate of inflation is the least important economic problem that the Netherlands currently has to fear, and anyway the higher German inflation will gradually be followed by higher Dutch inflation except if De Nederlandsche Bank is willing to appreciate the guilder vis-à-vis the Deutschemark.

This, however, conflicts with the secondary goal of De Nederlandsche Bank, which is to maintain a stable exchange rate between the guilder and the Deutschemark (see Figure 2.5). This is why in practice, the monetary policy of De Nederlandsche Bank has followed very much the policy of the Bundesbank and can therefore not be conducted in an independent fashion. The main reason is that the Dutch economy has liberalisation of capital markets, so that interest-rate differentials in favour of Germany would lead to a flight of capital out of the Netherlands and this would lead to downward pressure on the guilder and thus eventually violate the exchange-rate target. Italy and France have had capital controls and have been able to a somewhat independent monetary policy, but this will no longer be the case on 1 July 1990 when their capital markets should be liberalised as well. Obviously, this asymmetry or German hegemony in the EMS means that Dutch monetary policy and, eventually, inflation are determined by the Bundesbank. The imbalances in the balances of payments in Europe (deficits in Italy, Spain and now France, and surpluses in the Netherlands and Germany) may cause tensions in EMS-parities, hence some argue that a convergence of budgetary policies is necessary for stable intra-European exchange rates. If headway is made on the proposals for economic and monetary union made by the Delors Committee, then exchange rates will be fixed and binding restrictions on national budget deficits will hold. Regional imbalances in Europe will then persist for longer as neither the exchange rate nor the budget deficit can be used for stabilisation purposes (given that wages do not adjust immediately to ensure full employment and labour is sufficiently mobile). It follows that Brussels will have a greater role to play in alleviating regional imbalances, so that one of the prices one pays for monetary unification is greater intervention on an EEC level. Given these

interactions between monetary and fiscal policies for Europe in the future, many Dutch politicians are concerned about delegating responsibilities about these matters to a European System of Central Banks when the European Parliament and thus democracy still has relatively little to say in these matters.

We already mentioned in short the policy of De Nederlandsche Bank to stabilise credit. In our views such a policy is out of place in the current situation. Stiglitz and Weiss (1988) study the importance of credit. Even with an accommodating credit policy of De Nederlandsche Bank there remain special problems in the Dutch economy that may make credit constraints binding in significant parts of the economy. Table 4.3 shows the development of consumptive credit since 1980. In real terms, in 1988 credit was still 10% lower than eight years before.

4.2 Unanticipated inflation and nominal government debt

Now we want to discuss why it is advantageous for the Netherlands to tie its hands so much to the policies of the Bundesbank. A change in German interest rates usually leads to a change in Dutch interest rates on the same day and consequently the guilder - Deutschemark rate is kept within very small bands and Dutch inflation is very close to German inflation. The best way to do is to contrast three outcomes: (i) a dependent central bank which is not committed to the EMS and forced to the discretion outcome (D); (ii) an independent central bank which is not a follower in the EMS and who can benefit from rules (R); and (iii) an independent central bank firmly commmitted to the EMS (E). Case (i) corresponds to Britain, case (ii) to Germany and case (iii) to the Netherlands. Ignoring investment, the government budget constraint can be written as

$$\dot{d} = (r + \pi^e - \pi)d + g_c - \tau - (\pi + n)m \qquad (4.1)$$

where r denotes the ex-ante (growth-corrected) real interest rate (given by tastes and technologies) and m denotes the constant money-GDP ratio. Effectively, the quantity theory of money and the Fisher hypothesis have been

assumed so that inflation is the excess of monetary over real growth and nominal interest rates go up and down together with expected inflation. The government solves the public-finance problem (cf. Mankiw, 1987):

$$\underset{\pi,\tau}{\text{Min}} \ _{t}\int^{\infty}[\tau(s)^{2} + \beta\pi(s)^{2}] \ \exp[-_{t}\int^{s}r(s')ds']ds \qquad (4.2)$$

subject to (4.1). Hence, the government minimises the dead-weight losses caused by conventional taxation and by inflation taxes but both are needed to finance a given stream of public goods.

Case (iii) was discussed in Section (3.2); $\pi_E = 0$ and $\tau_E = rd + g_c^P - nm$. Case (i) implies that the central bank is unable to manipulate expectations of the private sector and thus must take π^e as given. In equilibrium expectations are not falsified, $\pi = \pi^e$. Discretion yields $\beta\pi_D = (m+d)\tau_D$ and $\dot{\tau}_D = 0$. Tax and seigniorage revenues are smoothed over time and go up and down together. Substitution into the present-value budget constraint gives:

$$\tau_D = \left[\frac{\beta}{\beta+m(m+d)}\right] \left[g_c^P + rd - nm\right] < \tau_R < \tau_E \qquad (4.3)$$

$$\pi_D = \left[\frac{m+d}{\beta+m(m+d)}\right] \left[g_c^P + rd - nm\right] > \pi_R > \pi_E = 0. \qquad (4.4)$$

Under rules the central bank has sufficient reputation and can thus assume $\pi = \pi^e$ when it optimises. Discretion leads to higher inflation and lower taxes than rules, because the private sector knows the central bank has an incentive to renege by levying a surprise inflation tax and wiping out the real value of debt service and thus assumes that the central bank will extract more seigniorage. Hence, rules yields higher welfare than discretion.

The crucial comparison is between outcomes (i) and (iii). The latter, i.e. tying the hands of De Nederlandsche Bank to the Bundesbank, yields a higher welfare than the former, the case of a dependent central bank, if $(\beta-m^2)d > (\beta+m^2)m$ (Gros, 1988). One is more likely to be a committed member of the EMS when one has a high level of public debt (as then the incentive to impose a surprise inflation tax is large) and when the priority one attaches to fighting inflation relative to the costs of tax collection is high. Both of these conditions are satisfied for the Netherlands, hence it is no surprise that the Dutch are such loyal members of the EMS. Even though the monetary

discipline argument has been made with reference to the real value of nominal government debt, it could have been made just as easily for the real value of nominal wage contracts (Giavazzi and Pagano, 1988). The story can also be extended to analyse the case for an independent EuroFed (van der Ploeg, 1990).

5. Investment, government deficits and the current account

5.1 Saving and consumption

Table 5.1 shows the relative performance of the Dutch economy as far as real growth is concerned. Average growth during the period 1982-88 was 1.7% (excl. energy revenues about 0.2% higher), but throughout the OECD it was 3% and throughout the European countries of the OECD growth it was 2.3%. It is thus considerably worse than the average performance for Europe and for the OECD and comparable with the modest performance of Germany. More recently, Dutch growth has been picking up. Tables 5.2 and 5.3 show that this has been associated with relatively large current-account surpluses for the Netherlands. The main reason is that savings of the private sector have risen from about 10% in 1980 to 16% in 1988 and this has more than off-set the borrowing of the public sector. Viewed in this light, the public-sector deficits do not look too bad. A consequence of this has been very low growth in real private consumption; less than 1% per annum during the period 1980-88. The growth in real income during this period of 1.3% per year has been mainly achieved through a growth in real exports of 3.5%, but despite a decline in government investment of 3.5% per year during this period. This has been due to the disproportionate burden of government cuts on investment and due to a substantial improvement in the competitive position of the Dutch economy.

The contrast between the Dutch and the British economies in recent years is striking (see van der Ploeg, 1989). The UK has experienced a consumption-led boom leading to more than 4% growth recently, whereas the Netherlands has had very modest growth originating almost entirely from the substantial increase in exports arising from the recent recovery in world trade (see Table 5.4). Inflation in the Netherlands is very low, whereas in the UK inflation is now surging to above 8%. Private savings (incl. pension funds) in the UK are much lower than in the Netherlands, whereas the UK is now paying off

government debt and the Netherlands still has substantial public sector deficits. Hence, the UK has substantial current-account deficits and the Netherlands has substantial current-account surpluses. It follows that there is considerable room for demand expansion in the Netherlands, whereas the UK is a prime example of over-heating. The mirror image of the above picture is that the Netherlands invests a lot abroad, but this does not generate jobs at home.

5.2 Smoothing of private consumption

Let us now consider an economy, which attempts to use the current account to smooth consumption:

$$\underset{c,j}{\text{Min}} \quad {}_t\!\int^{\infty}[\bar{c} - c(s)]^2 \exp[-{}_t\!\int^{s}r(s')ds']ds \tag{5.1}$$

subject to the present-value constraint for the nation as a whole,

$$g_c^P + c^P + j^P \leq y^P + ra \tag{5.2}$$

the intensive form production function, $y = f(k)$, and the capital accumulation equation,

$$\dot{k} = j - (\delta+u)k, \tag{5.3}$$

where c, $\bar{c}$, a, j, y and k denote the actual and the desired value for private consumption, net foreign assets, private investment, national income and the capital stock (all as percentages of GDP), respectively, and δ denotes the depreciation rate. Equation (5.2) requires solvency of the nation and follows from integration of the identity that the current account corresponds to the increase in wealth of the nation.

The result is that private consumption is smoothed over time, $\dot{c} = 0$, that the marginal product of capital equals the user cost of capital, $f'(k) = r+\delta+n$, and that the current account is in surplus when actual income exceeds permanent income or when the actual level of government spending is less than

the permanent level, $ca = y - y^P + g_c^P - g_c - j$. When taxes are also smoothed over time (see Section 3.2), one obtains (Roubini, 1988):

$$ca = -def + (y-y^P)(1-\tau) - j \tag{5.4}$$

where def denotes the inflation-adjusted government deficit. Hence, private investment needs to be financed through a deficit on the current account of the balance of payments.

6. Capital mobility and the external constraint

In our review of the Dutch economy during the eighties we already claimed that an external "solvency constraint" is currently not relevant for the Netherlands. The current account of the balance of payments shows a considerable surplus on average. (Figure 2.4) If, however, capital markets are less open than casual inspection suggests, another external constraint may hamper the Dutch economy. We already showed that the government budget deficit is excessively high (given the fact that debt is not allocated to investment spending), furthermore that private investment is relatively low. If capital markets are closed, the deficit may have crowded out private investment. Hence, it is important to assess whether this has been the case indeed. Furthermore, Dutch central bankers worry about the fact that an increasing share of Dutch government debt may be held by foreigners. This fear is misplaced if international capital is mobile and individuals are forward looking: in that case Ricardian Equivalence implies that whether a given stream of primary government spending is financed through taxes or debt is irrelevant and furthermore that placement of government debt abroad or at home is irrelevant. Finally, if capital is relatively mobile this has implications for the optimal structure of taxation.

Let us turn to the data. Figure 6.1 shows gross direct international flows. The solid line is direct Dutch investment abroad, the broken line is foreign direct investment in the Netherlands (both percentages of GNP). Both lines, in particular Dutch investment abroad, slope upwards. Figure 6.2 shows the total of net long-term capital streams (direct investment plus equity and bonds, figures presented for the non-monetary sector of the economy). Again

both curves, volatile as they are, slope upwards. The recent increase of holdings of Dutch assets by foreigners is a result of a small positive interest differential between the Netherlands and Germany together with a strong guilder (low inflation). However, this effect may be attenuated somewhat due to the presence of a liquidity premium, because the capital market of the Netherlands is much smaller than that of Germany. The increases in direct investment seem to anticipate "1992".

Other direct evidence on growing international capital mobility is available by comparing onshore and offshore interest rates. Figures 6.3 and 6.4 show onshore and offshore 3-month interest rates for the Netherlands and Italy respectively. The message is quite clear: the Netherlands (where capital controls hardly exist) has nearly identical onshore and offshore rates, whereas Italy (with strong capital controls) has large divergences. Increasing mobility should not necessarily lead to larger capital flows, but should eventually lead to convergence of rates of return on capital.

Despite these direct sources of evidence for increased openness of capital markets, there is an empirical puzzle known as the Feldstein-Horioka puzzle that contradicts this evidence (Feldstein and Horioka, 1980 or FH for short). As argued in the previous section, perfect capital mobility together with forward looking behaviour of economic agents implies that the current account of the balance of payments is used as a smoothing device. Temporary fluctuations in income should not lead to significant changes in spending (consumption and investment), since these shocks are absorbed by the current account. A temporary fall in income thus leads to a trade deficit, rather than to a trade surplus as in the usual Keynesian story. A permanent (additive) shock to income should lead to an immediate adjustment of consumption, leaving saving and investment unaltered (hence, the current-account is not affected by this shock). The implication of this theory is that consumption and investment for the economy as a whole should be uncorrelated. FH and Feldstein and Bacchetta (1989) find quite different empirical evidence, though. This does not necessarily contradict perfect capital mobility, as the intermediate case shows. That is, persistent productivity shocks will lead to higher savings and higher investment as long as capital becomes more productive. In this case, even under perfect capital mobility one can find positive savings-investment correlations.

Figure 6.5 presents the time series for gross savings, gross investment and the current account. If the current account works as a smoothing device, then FH expect a value close to zero of the "savings retention factor" or $\alpha_1 = 0$ in the regression $J/Y = \alpha_0 + \alpha_1 (S/Y)$ In fact, FH find values of α_1 close to one using data for 16 OECD countries. Note, by the way, that if the null hypothesis of perfect capital mobility were true, investment should be the exogenous variable (determined by the international rate of return). Simultaneity is just one of the econometric problems that hampers the FH line of research (estimation by 2SLS does not lead to different findings, however). Other problems occur if one does not use cross-section data but time series (Ghosh, 1990). As the Dutch savings and investment ratios do not clearly show evidence of a unit root or cointegration, we ignore problems related to cointegration. Estimating with Dutch time series for 1951-1989 provides a savings retention coefficient (α_1) of 0.90 (s.e. 0.15), with an $\bar{R}^2$ of 0.50 and a DW of 1.08. Estimation with 2SLS gives essentially the same results. A first problem of this result is the apparent dynamic misspecification. Furthermore, we expect a lower value for α_1 in more recent periods than in the beginning of our sample. Estimating for subperiods leads to degrees of freedom problems. An alternative is to use a Bayesian updating procedure or recursive least squares (RLS) instead, which suggests an increase over time instead of a decrease of α_1 over time. This is surprising, because one would have thought that the increasing degree of liberalisation of capital markets should with the passing of time have led to a fall in α_1.

A mirror image of the savings-investment correlation is the current account-savings correlation (as $S = CA + J$). In the following, we will take investment as the independent variable (consistent with the null hypothesis of full capital mobility). If we regressed the current account on investment one obtains a coefficient of -0.44 (s.e. 0.09), very different from the expected value of minus one. Of course, this estimate is troubled by the same problems as our earlier findings. One possible way out is to differentiate between private and government behaviour. This also has the advantage that it will be possible to see if the government really crowds out private investment if it runs a deficit. If the permanent income hypothesis holds true, then private savings depend on the after-tax difference between current and permanent income. Government savings, or minus the government budget deficit, depend on either tax smoothing or explicit offsetting government policies.

Roubini (1988) estimated equation (5.4) which corrects for the government deficit, assuming that GNP is a random walk so that $y_t^P = y_t$. Our estimates are not significantly different (differences may result from the way of correcting the deficit for the inflation tax) and are -0.43 (s.e. 0.33) for the deficit term and -0.68 (s.e. 0.39) for the investment term ($\bar{R}^2 = 0.21$, DW = 0.41, estimation period 1971-1985 as in Roubini). These results are closer to the perfect capital mobility prediction but still far from satisfying. Estimates using the complete sample period (1951-1989) lead to estimated parameters somewhat closer to zero (not really surprising as the 1950s and 1960s had probably lower capital mobility than the years used by Roubini). Problems with dynamic misspecification (revealed by the DW statistics) and "perverse" instability (revealed by updating or RLS regression) point out that we have not yet captured a satisfactory model for capital mobility in relation to savings and investment.

Let us proceed with an equation along the lines of (5.4), but drop the assumption that GDP follows a random walk. Instead, consider the case where GDP is an integrated AR(1) process:

$$\Delta Y_t = \beta \Delta Y_{t-1} + \varepsilon_t$$

In that case it can be shown that

$$Y_t - Y_t^P = -\frac{\beta\emptyset}{1-\beta\emptyset} (Y_t - Y_{t-1})$$

where $\emptyset = 1/1+r$. Estimation with real GDP from 1956 to 1989 gives

$$\Delta Y_t = \begin{array}{cc} 5.38 & + \ 0.30 \ \Delta Y_{t-1} \\ (1.55) & (0.17) \end{array} \qquad \begin{array}{l} \bar{R}^2 = 0.06 \\ DW = 1.90 \end{array}$$

If we take $r = 0.025$ (hence $\emptyset = 0.976$), we obtain $Y_t - Y_t^P = -0.42 \ (Y_t - Y_{t-1})$. Estimating equation (5.4), using this result, gives

$$ca = \begin{array}{cccc} 0.14 & - \ 0.58 \ J/Y & - \ 0.12 \ def & - \ 1.15 \ (1-\tau)(Y-Y^P)/Y \\ (0.03) & (0.13) & (0.13) & (0.55) \end{array}$$

$\bar{R}^2 = 0.36;$ DW = 0.71; $\chi^2(4) = 19.7$
Sample 1955-89

It is clear that these results do not improve upon the earlier findings. Dynamic misspecification still is a problem, the estimates for the coefficients are even worse than in an equation with a random-walk specification for income. There still are other ways to test for the existence of full capital mobility combined with forward-looking behaviour. Ghosh (1990), for example, shows that the current account should predict ("Granger cause") the change in net cash flow of a country (ΔNCF ■ $\Delta(Y-I-G)$, where G equals government spending, below we will discuss the own implications of government spending. We were unable to find conclusive evidence for this hypothesis.

A possible explanation for the lower (in absolute value) than expected coefficient of the deficit in the current account regression is given by Summers (1988). He suggests that the government might have the explicit intention to fill the private savings-investment gap. In a cross-country study, Summers finds a coefficient of 0.72 in a regression of the deficit in the net savings gap: DEF = 0.72 ($S_{net} - I_{net}$). Hence, Summers argues that 72% of the savings gap is explicitly offset by the government's finance policy. Indeed, in the Netherlands there has been a well-known deficit rule due to Jelle Zijlstra (former minister of economic affairs, finance, prime minister and central banker), known as the "structural budget deficit" rule according to which the government budget deficit should match the savings surplus of the private sector, minus 1.5% of GDP intended for capital transfers to Third World countries (development aid). Hence, if this policy has been pursued in practice indeed, we would expect:

def = - 0.015 + ca

Estimating this relation provides

$$\text{def} = 0.02 + 0.02 \text{ ca} \qquad R^2 = 0.0$$
$$(0.005) \quad (0.18) \qquad DW = 0.30$$

Various efforts to obtain better results by introducing dynamics did not lead to improvements. Furthermore, estimation for subsamples gave essentially the same result. Using instrumental variables also did not make much difference. A further test to infer whether the structural current account surplus determines the deficit or reversely is to perform a "Granger causality" test. Taking for granted the many well-known objections to interpreting this kind of tests as a sign of (lack of) causality, we were unable to conclude that either the current account "Granger causes" the deficit or reversely. Our test is based upon Geweke et al. (1982). The first test is for "causation" of the deficit by the current account:

$$\frac{CA}{Y} = C_0 + \sum_{i=-4}^{4} \alpha_i \left[\frac{DEF}{Y}\right]_{t-i} + \sum_{i=1}^{4} \beta_i \left[\frac{CA}{Y}\right]_{t-i}$$

Estimating this equation for 1955 to 1985 and testing if the α_i, i=-4,...-4 jointly differ from zero leads to an F-Statistic $F_{(4.17)} = 0.81$. Hence, there is no sign of "Granger causation" of the current account on the deficit. Similarly, a test for the reverse "Granger causation" leads to a F-Statistic of 0.34, again there is no sign of "causation".

Another reason for the counter-intuitive estimates of (5.4) is a violation of the tax smoothing policy by the Dutch government. Indeed, it is hard to argue that the financial policies during the eighties were even remotely consistent with a tax smoothing policy as argued in Section 3.

According to the various regression results presented above, the recurrent conclusion seems to be that, despite being an open economy, the Netherlands do not fully profit from international capital mobility. The current account does not seem to fulfill its role of a smoothing device. If this conclusion were warranted, then increases in government budget deficits would tend to crowd out investment. This is what Feldstein and Bacchetta argue as well. They estimate an investment equation with the budget deficit and private savings as independent variables for a panel of 13 OECD countries. We did the same for the Netherlands, resulting in:

$$J/Y = \underset{(0.05)}{0.00} - \underset{(0.16)}{0.70} \frac{DEF}{Y} + \underset{(0.18)}{0.86} \frac{PS}{Y}$$

$$\bar{R}^2 = 0.46; \quad DW = 1.06 \text{ sample } 1951\text{-}89$$

This result is very similar to Feldstein and Bacchetta. If we are satisfied with this result (and below we will argue that we are not), then the conclusion should be that, indeed, government deficits crowd out private investment. Still, how can it be that in such an open economy as the Dutch we are apparently faced with capital constraints? We have to stretch our imagination to find a satisfactory answer. FH mention a few capital markets "imperfections" that may cause less than perfect capital mobility. One factor they mention is nationalistic portfolio preferences, i.e. Dutch investors like to invest in the Netherlands. It is hard to see how such preferences can sustain in an otherwise open and competitive market. Furthermore, some actors may have such preferences but the issue is what happens in the margin. If the marginal investor is more "rational" than there is no external (capital mobility) constraint. The same holds for institutional rigidities. It is true that, for example, Dutch pension funds are not allowed to invest as much as they like abroad (similar constraints apply to other European pension funds). Table 6.1 shows that these funds have relatively few foreign assets and many government bonds. The civil servants pension fund, ABP, invested about two third of its capital in government loans, whilst private funds invested nearly 40% of their funds in government. ABP invested only 2% in equities, but private pension funds reach nearly 8%. Apart from institutional barriers and forced saving, risk aversion explains much of this investment behaviour. The situation is changing, though, as these funds increasingly invest in equity as well as abroad (some institutional limitations are dropped in the near future), on the other hand more foreign investors start to buy Dutch government bonds.

Let us now criticize the earlier findings. Things change drastically as soon as we control for the effect of world trade. Both private investment (PI) and the government budget are strongly correlated with world trade, as the following two regressions clearly show:

$$\frac{DEF}{Y} = \underset{(0.005)}{0.02} \quad - \underset{(0.05)}{0.06 \ WT} \quad - \underset{(0.05)}{0.14 \ WT_{-1}} \quad + \underset{(0.08)}{0.82} \left[\frac{DEF}{Y}\right]_{-1}$$

$$\bar{R}^2 = 0.76; \quad \chi^2(1) = 0.26; \quad \chi^2(4) = 3.1$$

$$\frac{PI}{Y} = \underset{(0.02)}{0.07} + \underset{(0.07)}{0.18 \ WT} + \underset{(0.07)}{0.28 \ WT_{-1}} + \underset{(0.09)}{0.51 \left[\frac{PI}{Y}\right]_{-1}}$$

$$\bar{R}^2 = 0.65; \quad \chi^2(1) = 0.22; \quad \chi^2(4) = 3.5$$
(both samples 1951-89).

Hence, private investment and the government budget deficit are both affected by a third variable, world trade, leading to spurious regressions in earlier equations. If we add the deficit, we obtain

$$\frac{PI}{Y} = \underset{(0.02)}{0.05} + \underset{(0.12)}{0.15 \ \frac{DEF}{Y}} + \underset{(0.07)}{0.19 \ WT} + \underset{(0.07)}{0.30 \ WT_{-1}} + \underset{(0.10)}{0.56 \left[\frac{PI}{Y}\right]_{-1}}$$

$$\bar{R}^2 = 0.66; \quad \chi^2(1) = 0.16; \quad \chi^2(4) = 6.27$$

The impact of the deficit on private investment looses its significance and even changes in sign. As we have seen from Table 3.2, there occurred a strong decline in both private and public investment, that started in the early seventies. Two major showdowns occurred just after the two oil crises. Private investment as percentage of GNP was at an absolute minimum of 15% in 1982, after which a slow recovery started. Government investment has halved and remained in decline, even with a few grand projects (building new dikes) going on. The decrease in investment, in addition to an increase in labour supply, must have led to a decrease in the relative level of full capacity. If anything, government investment policy only made things worse. As mentioned in Section 3 the government budget constraint does not discriminate between consumptive and productive government expenditures. In times of budget cuts, it is easier to stop making new investments than to reduce government consumption (as sacking or cutting salaries for public servants invariably leads to strikes and political embarrassment).

Figure 2.2 portrayed the development of the share of profits and the share of investment in the national income. It is obvious that the last seven years of wage moderation by the trade unions have resulted in a dramatic fall

of the share of labour from over 90% in 1982 to about 77% seven years later. The resulting increase in profits combined with the recent recovery in world trade and demand, has led to a recovery of investment during the last few years. This is consistent with a Kaleckian and Keynesian explanation of private investment behaviour. However, it is interesting to note that the recovery of profitability has not led to a full recovery of investment. This corresponds to a kind of hysteresis in investment. Nevertheless, if the Kaleckian story of investment holds true, there is only a limited role for the current account as a smoothing device.

7. Concluding remarks

    The Dutch economy is making some progress towards making public sector finances more healthy, but this has gone at the expense of too little fiscal stimulus. The Netherlands cannot expand demand unless the rest of Europe, in particular Germany, does the same, so the Dutch should be strongly in favour of a coordinated supply-friendly fiscal expansion for Europe. Since public investment has declined dramatically in the process of cutbacks, it is essential that the government invests more heavily in infrastructure, education and the environment. Financial discipline has not been good, because government investment has fallen dramatically and actual spending has been much higher than planned spending. There is some evidence that monetary policy in the Netherlands is too tight and, given the large public debt, a slight increase of inflation to, say, 3 or 4% per year may not be as bad as De Nederlandsche Bank suggests. Since private sector savings in the Netherlands more than off-sets public sector borrowing (witness the substantial current-account surpluses), there seems to be room for an expansion of demand. The growth in 1989 in the Netherlands has been substantial, but these extra jobs have been mainly of a low-quality and part-time nature and have not been enough to keep up with the increase in labour supply (resulting mainly from increased participation). As a result, unemployment in the Netherlands has remained persistently high. The growth in output and jobs have been mainly the result of the recovery in world trade, helped with the wage moderation that has taken place since 1983, so that one cannot give the credit to government policy. The wage moderation has been mainly forced through high unemployment, but given the alienation of the long-term unemployed and the presence of

hysteresis it is not clear that wage moderation will continue in the future. There is a case for more government investment in permanent schooling and re-training programmes, especially as these may to a large extent be netted out of the government budget constraint. An application of the "golden rule" of government finance would permit such policies. In addition, more attention should be paid to "sabbatical leaves" and permanent schooling as they are a much more fruitful policy than the cuts in hours worked (advocated by part of the trade union movement). The Dutch direct tax system is highly inefficient, because it combines high marginal tax rates with low average tax rates. The proposed reform of the tax system will go some way towards remedying these inefficiencies. Social premiums are high in the Netherlands, but then these are off-set by a generous pension system. It is not clear what the adverse effects of this on unemployment are.

It is not clear that investment in the Netherlands is financed through the current account. This may be due to legal constraints on foreign investment by pension funds, but more generally it is an indication that neither tax smoothing nor consumption smoothing have been of much importance in the Netherlands. In other words, the Netherlands is characterised by two self-imposed external constraints, a rigid guilder-Deutschemark rate and investment being too closely tied to domestic saving.

References

Barro, R. (1979). On the determination of public debt, Journal of Political Economy, 87, 5, 940-971.

Buiter, W.H. (1985). A guide to public sector debt and deficits, Economic Policy, 1, 13-79.

Dornbusch, R. (1989). Credibility, debt and unemployment: Ireland's failed stabilization, Economic Policy, 8, 173-209.

Feldstein, M. and C. Horioka (1980). Domestic saving and international capital flows, Economic Journal, 90, 314-329.

Feldstein, M. and P. Bacchetta (1989). National saving and international investment, NBER Working Paper No. 3164, Cambridge, MA.

Geweke, J., R. Meese and W. Dent (1982). Comparing alternative tests of causality in temporal systems, Journal of Econometrics, 21, 161-194.

Ghosh, A.R. (1990). "international capital mobility and optimal current account behaviour: An empirical investigation:, Princeton University Discussion Paper No. 50.

Giavazzi, F. and M. Pagano (1989). Confidence crisis and public debt management, NBER Working Paper No. 2926, Cambridge, MA.

Giavazzi, F. and M. Pagano (1988). The advantage of tying one's hands: EMS discipline and central bank credibility, European Economic Review, 32, 5, 1055-1082.

Graafland, J.J. and F. Huizinga (1988). Modelling a wage equation for the Netherlands: A cointegration approach, Central Planning Bureau Memorandum No. 51, The Hague.

Gros, D. (1988). Seigniorage versus EMS discipline: Some welfare considerations, Working Document No. 38, CEPS, Brussels

Keuzenkamp, H. and F. van der Ploeg (1989). Zeven verloren jaren? De mislukte sanering, Intermediair, 25, 34, 5-11.

Keuzenkamp, H. and F. van der Ploeg (1990a). "Perceived constraints for Dutch unemployment policy", in C. de Neubourg (ed.), The Art of Full Employment: Unemployment Policy in Open Economies, North-Holland, Amsterdam.

Keuzenkamp, H. and F. van der Ploeg (1990b). Het Grote Onvermogen: Een kritiek op de gangbare analyse van financieringstekort, schuld en begrotingsruimte, ESB, 75, 3764, 608-612.

Mankiw, N. (1987). The optimal collection of seigniorage: Theory and evidence, Journal of Monetary Economics, 20, 327-341.

Persson, T. and L. Svensson (1989). Why a stubborn conservative would run an deficit, Quarterly Journal of Economics, 104, 325-345.

Ploeg, F. van der (1989). "Tien jaar van voorspoed en ongeluk: Mrs. Thatcher en de Britse economie (Ten years of progress and unhappiness: Mrs. Thatcher and the British economy)", Socialisme en Democratie, 6, 191-195.

Ploeg, F. van der (1990). Budgetary aspects of economic and monetary integration in Europe, Discussion Paper No. 9037, CentER, Tilburg University.

Romer, D. (1988). What are the costs of excessive deficits, NBER Macroeconomics Annual 1988, MIT Press, Cambridge, MA.

Roubini, N. (1988). Current account and budget deficits in an intertemporal model of consumption and taxation smoothing. A solution to the "Feldstein-Horioka puzzle?", NBER Working Paper No. 2773, Cambridge, MA.

Roubini, N. and J. Sachs (1989). Political and Economic Determinants of Budget Deficits in the Industrial Democracies,, European Economic Review, 33, 903-933.

Sterks, C.G.M., J. de Haan and C.A. de Kam (1989). De erfenis van Ruding, Economische Statistische Berichten, 1898.

Stiglitz, J.E. and A. Weiss (1988). Credit rationing, and its implications for macro-economics, unpublished manuscript.

Studiegroep Begrotingsruimte (1989). Naar Gezonde Overheidsfinanciën, presented to Parliament.

Summers, L. (1988). Tax policy and international competitiveness, in J. Frenkel (ed.), International Aspects of Fiscal Policies, NBER Conference Report, Chicago University Press.

LIST OF FIGURES

Figure 2.1: The unemployment rate and long term unemployment
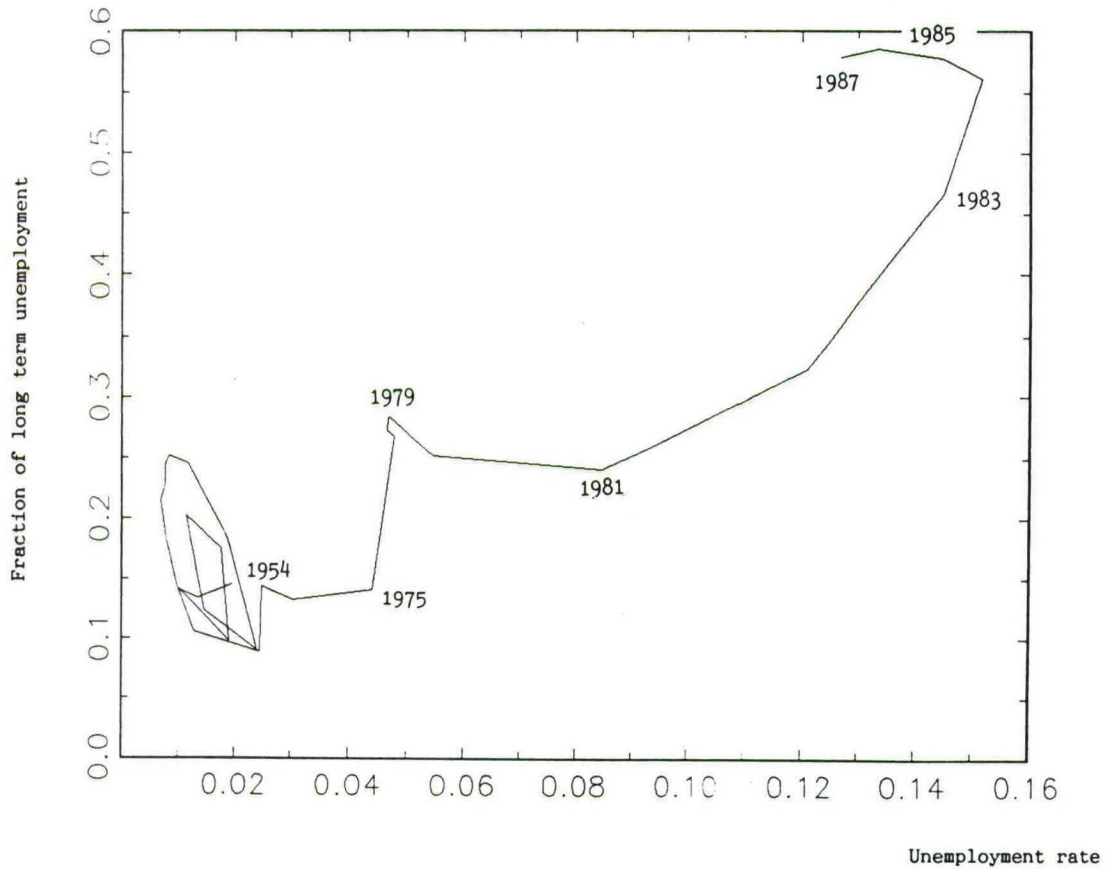
Figure 2.2: The profit share and investment
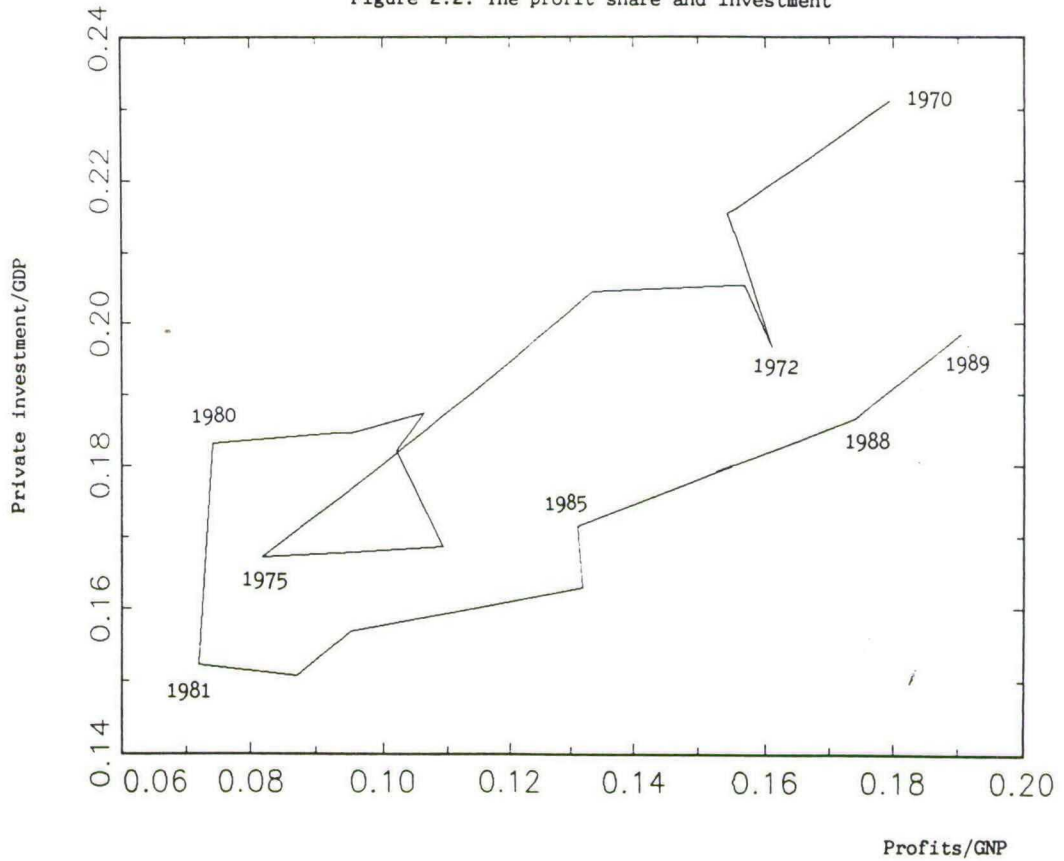
Figure 2.3: Key figures of public finance

Legend (vertical axis labels on plot):
— public sector financial deficit/GNP
-·-·- public sector gross debt/GNP
- - - state sector net worth/GNP
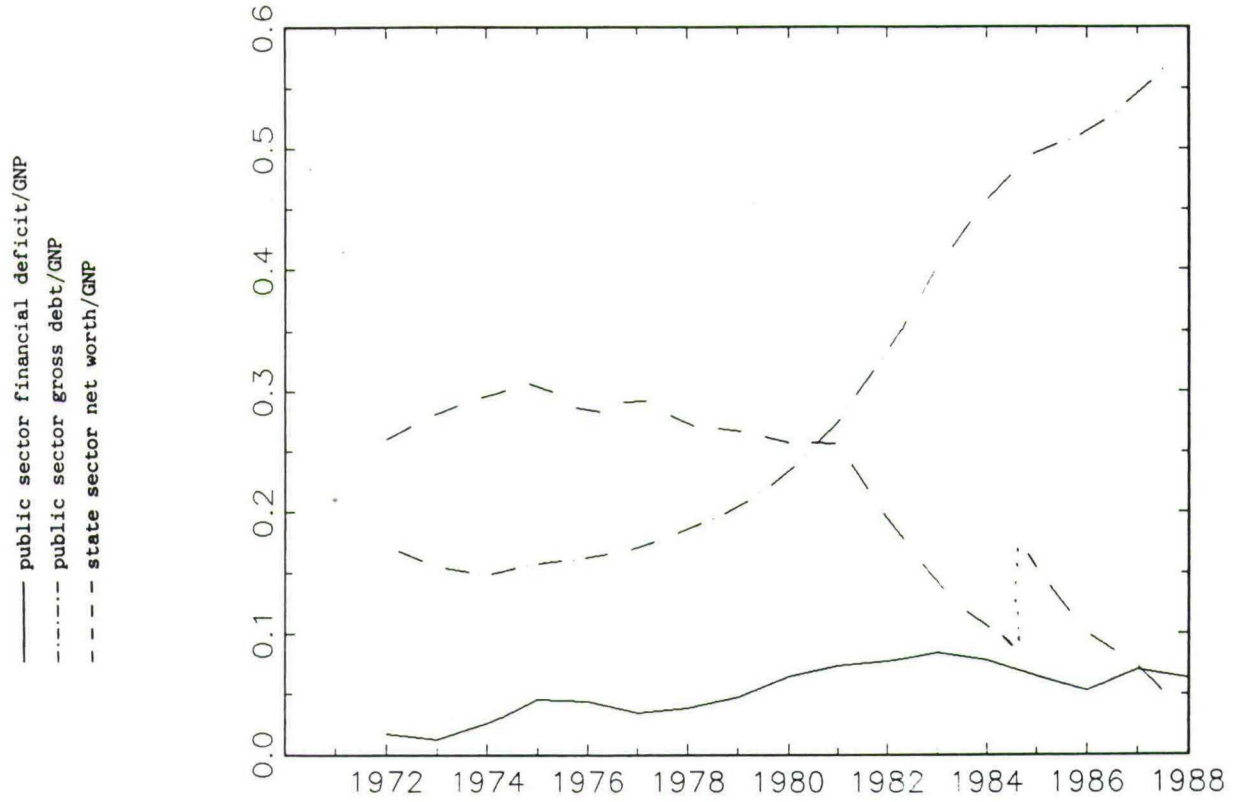
Figure 2.4: The surplus on the current account
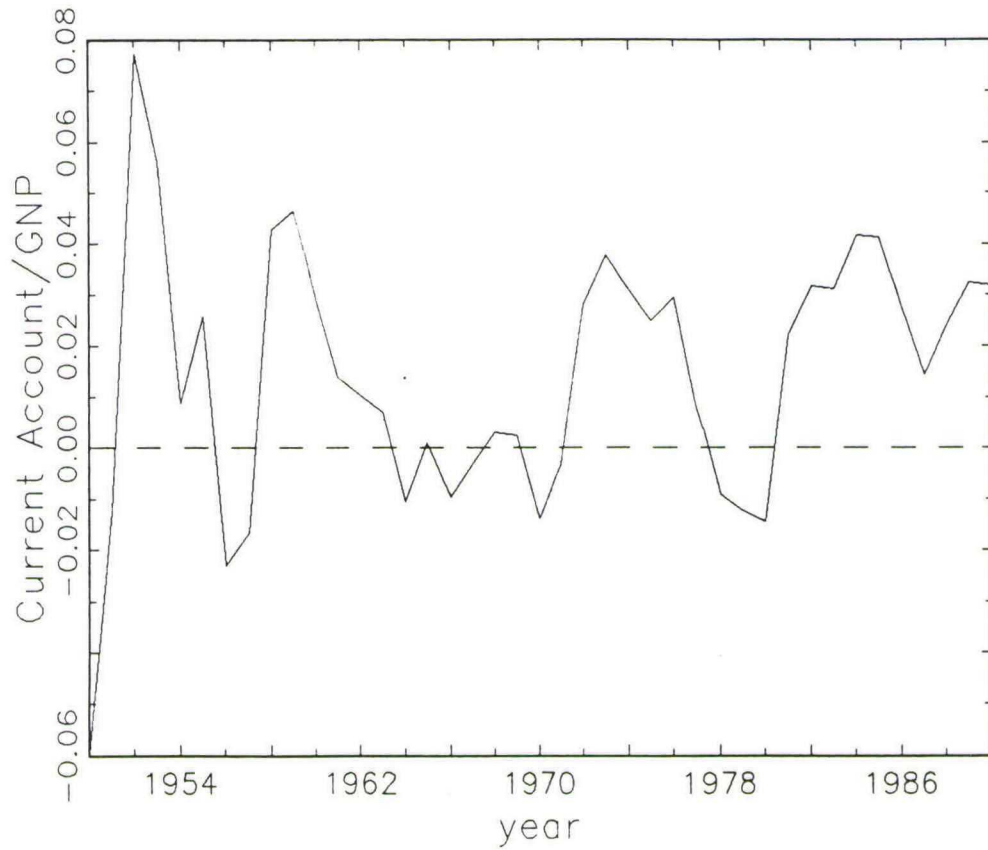
Figure 2.5: The D-mark - guilder exchange rate
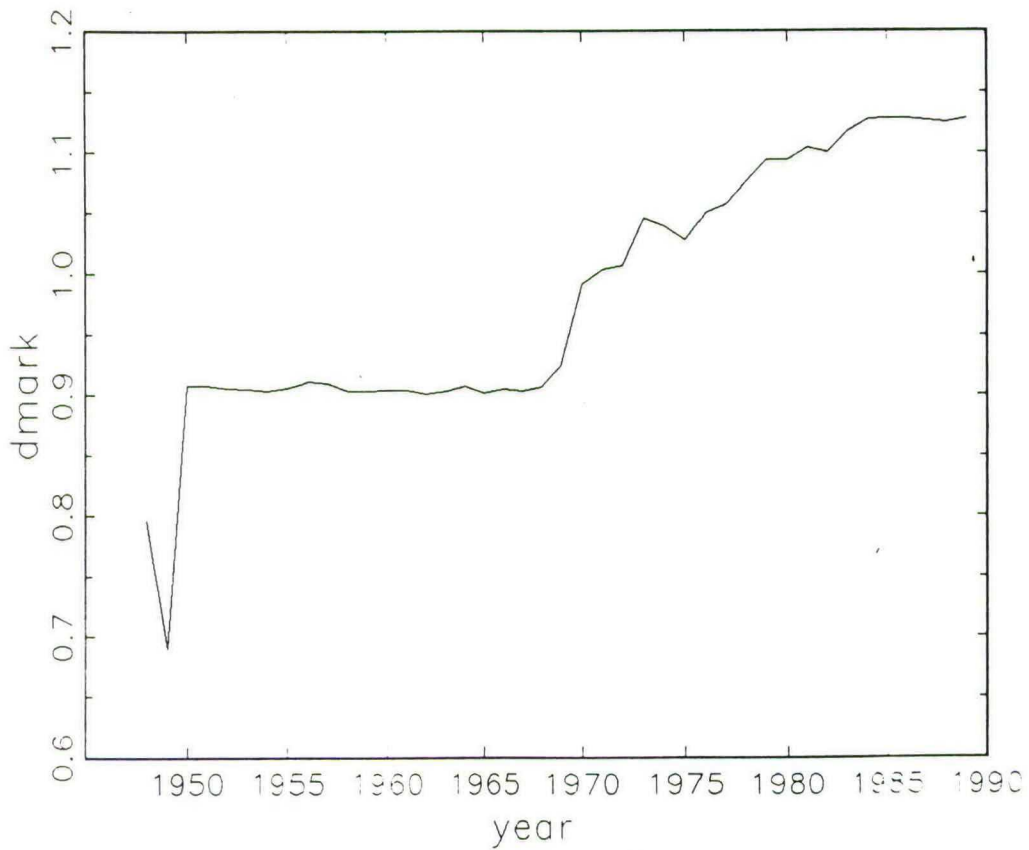
Figure 2.6: Unit labour costs of the Netherlands and some competitors

UK

Japan

FRG
USA
Netherlands
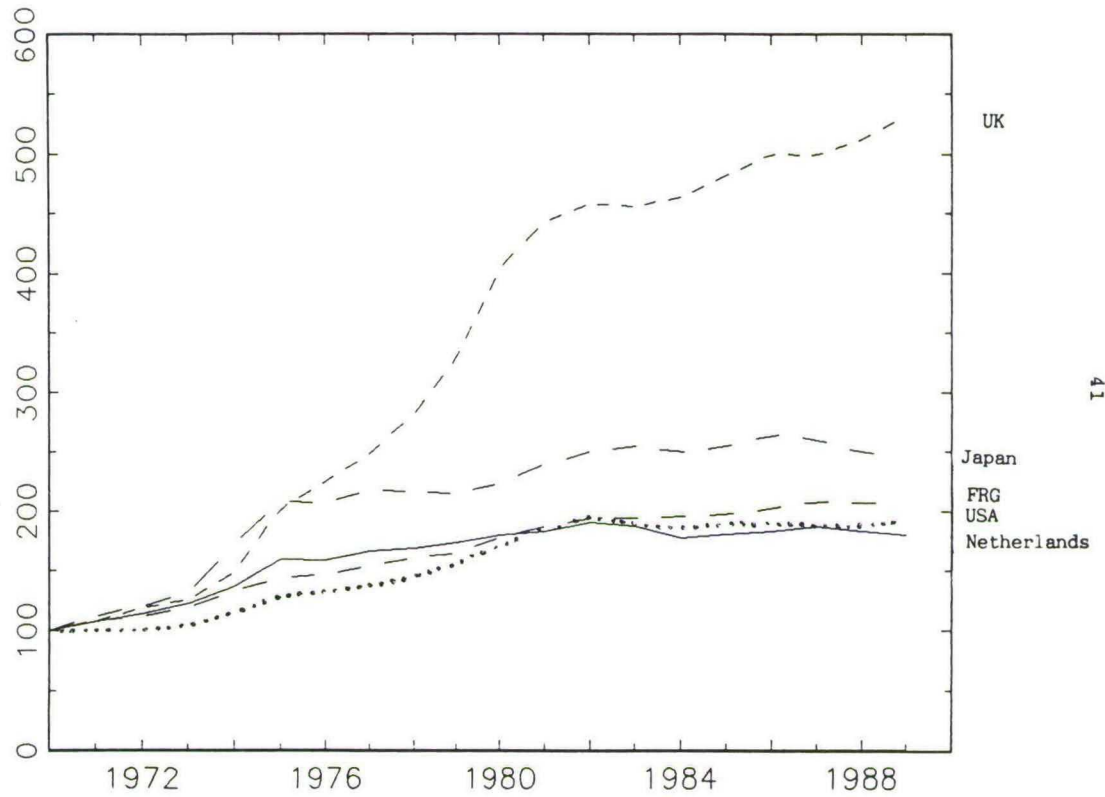
Figure 6.1: Direct international investment flows

direct Dutch investment abroad, % of GNP
- - - direct foreign investment abroad
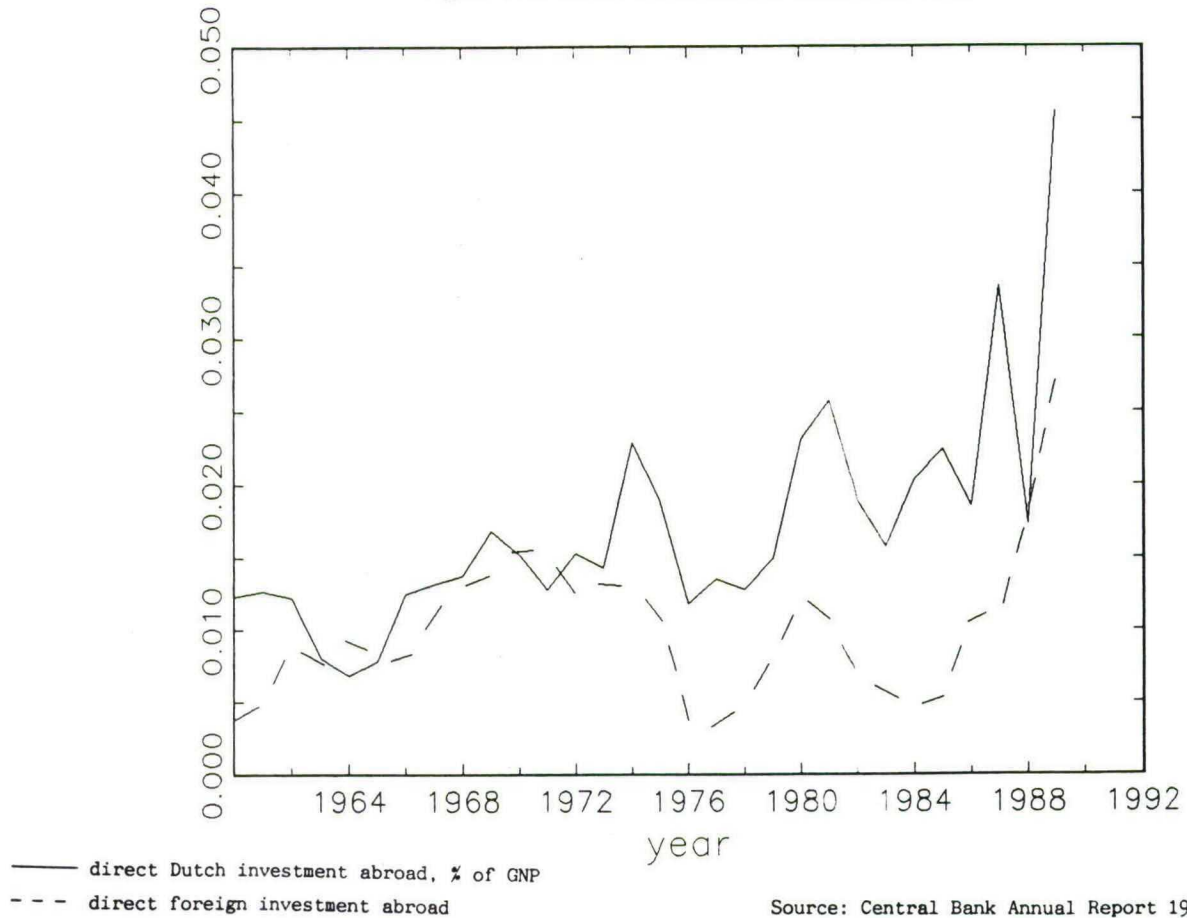
Source: Central Bank Annual Report 1989, table 6.3

Figure 6.2: Long term international investment flows
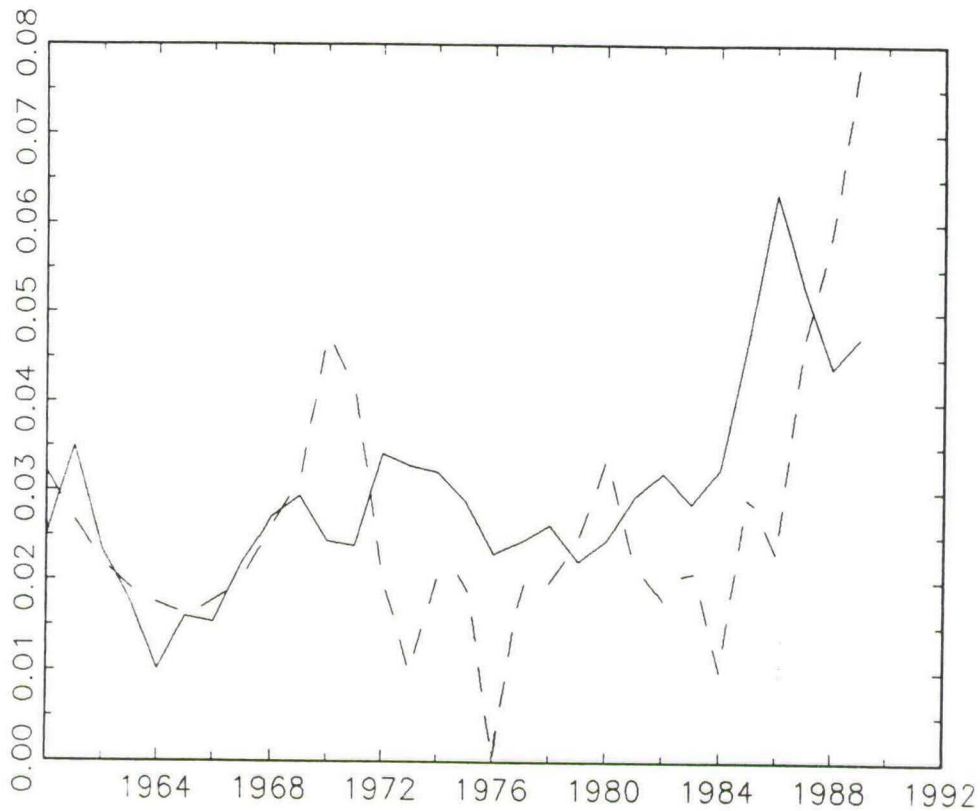
—— increase Dutch foreign assets (% GNP, non-banking sector)   Source: Central Bank Annual Report, Table 6.3

- - increase foreign assets in the Netherlands (% GNP, non-banking sector)

43

Figure 6.3: The onshore and offshore 3-month interest rate of the Netherlands

NETHON ———
NETHOFF – – –

A J O J A J O J A J O J A J O J A J O J A J O J A J O J A J O J A J O J A J O J A J
1979   1980   1981   1982   1983   1984   1985   1986   1987   1988   1989

44
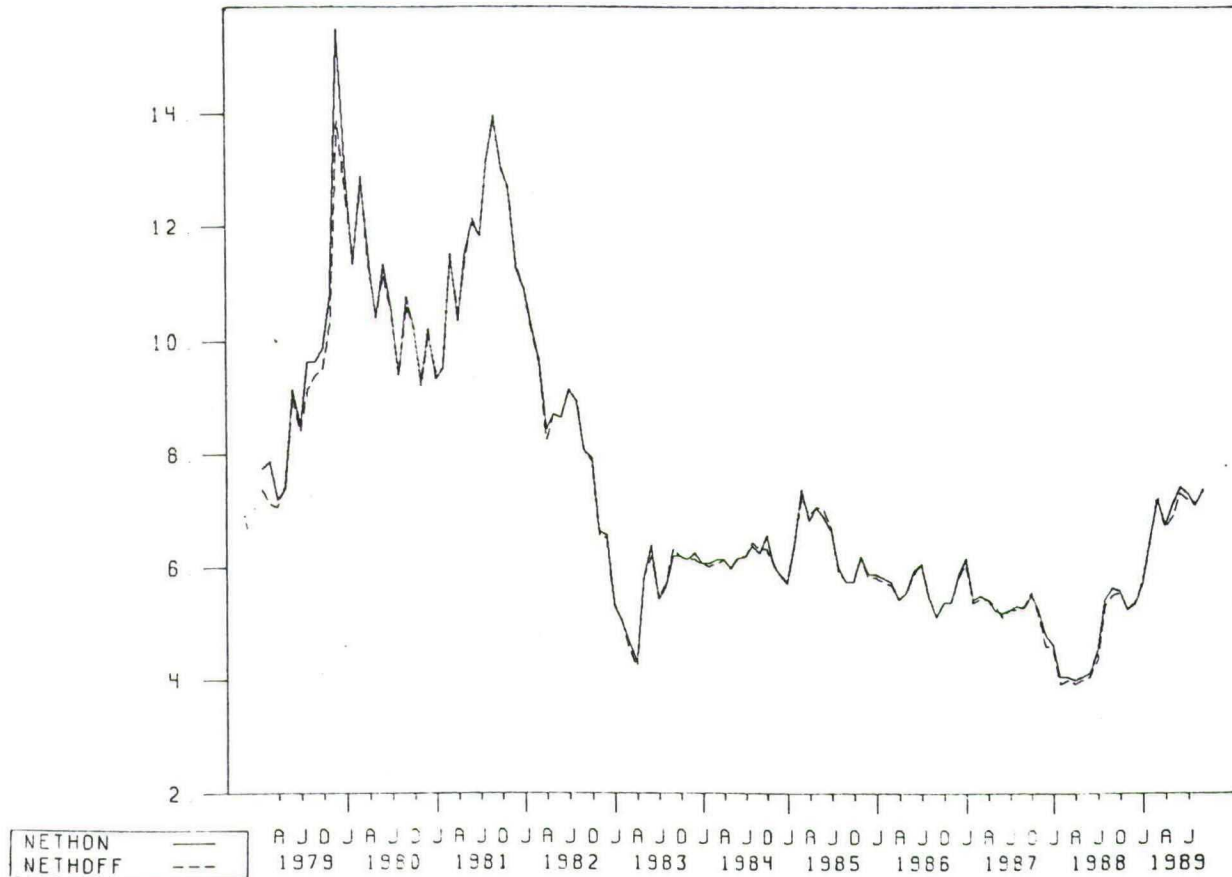
Figure 6.4: The onshore and offshore 3-month interest rate of Italy

Figure 6.5: Savings, investment and the current account

· · · · gross investment/GNP

——— gross savings/GNP

– · – · current account/GNP

47

LIST OF TABLES

Table 3.1: Alternative Scenarios for the Government Debt (as a percentage of national income)

Financial deficit $\pi + n = 4.5\%$

	1988	1990	1991	1992	1993	1994	1995	2005
(i) 5¼% from 1990	69.1	73.7	75.4	77.0	78.5	80.0	81.4	92.5
(ii) 3¼% from 1994	69.1	73.7	74.9	75.5	75.6	75.2	74.8	71.8
(iii) 2¼% from 1994	69.1	73.7	74.6	74.8	74.2	72.8	71.5	61.4

Financial deficit $\pi + n = 2.5\%$

	1988	1990	1991	1992	1993	1994	1995	2005
(i) 5¼% from 1990	69.1	75.1	78.1	81.0	83.9	86.7	89.4	113.4
(ii) 3¼% from 1994	69.1	75.1	77.6	79.5	81.0	81.8	82.7	90.2
(iii) 2¼% from 1994	69.1	75.1	77.3	78.8	79.5	79.4	79.3	78.5

Source: Studiegroep Begrotingsruimte (1989).

Table 3.2: Investment in the Netherlands (as a percentage of GNP)

	1970	1975	1980	1985	1988
Private investment	23.1	16.7	18.3	17.1	18.7
Government investment	4.7	3.9	3.3	2.6	2.3

Source: Central Planning Bureau, CEP 1989 (Table B.1)

Table 3.3: Governments interest payments, capital income and investment

	NNP	Government interest payments	Government capital income	Government investment
1977	251,180	8,390	10,870	9,280
1978	269,660	9,310	10,900	9,640
1979	285,940	10,300	12,800	9,800
1980	303,630	12,540	15,900	10,970
1981	316,270	15,710	21,120	11,100
1982	330,620	19,010	21,970	10,620
1983	342,390	21,710	23,550	10,190
1984	358,560	23,870	25,830	11,190
1985	375,990	26,140	29,010	10,940
1986	385,440	26,580	22,720	10,180
1987	386,470	26,420	15,680	9,960

Source: Columns 3 and 4: CBS, National Accounts 1983, Table 12, 1987, Table R.5. Column 5: CBP, CEP 1989, B.1. All in millions of guilders.

Table 3.5: An International Comparison of Taxes and Contributions on Labour Income

	Taxes and social premiums (% of GDP)		Average tax rate	Total marginal tax wedge*	Top income tax rate	
	1965	1983	1983	1983	Actual	Proposed
Sweden	36	50	61.7	73	75	60
Netherlands	34	47	37.5	73.5	72	60
Norway	33	47	50.4	63	56	
Belgium	31	45	48.1	61.7	72	55
France	35	45	47.6	59.7	56.8	
UK	31	38	39	54.5	40	
Germany	32	37	36.6	57	56	53
US	26	30	28.2	42.6	28	
Japan	18	28	19.1	39.9	88	66
Total OECD	27	37	39	55.8		

Source: OECD Economic Studies, No. 7 and 8.

* Married worker with two children, incl. indirect taxes and employers' contributions.

Table 3.4: International Comparison of Government Debt, 1980-90.

	Gross debt (% of GDP)			Net debt (% of GDP)		
	1980	1986	1990	1980	1986	1990
Belgium	77	122	127	69	114	119
Italy	59	88	100	54	86	98
Netherlands	46	74	90	25	48	64
Canada	45	67	71	12	34	38
Japan	52	69	65	17	27	23
US	38	51	50	20	30	29
Sweden	45	68	50	-14	16	-2
Spain	19	48	49	8	30	31
Denmark	34	59	49	7	28	17
France	37	46	48	14	25	28
West Germany	33	42	45	14	22	25
UK	55	53	39	48	46	32
Norway	56	38	34	7	-16	-20
Total	42	56	55	22	33	33

Source: OECD, Economic Outlook, December 1988c.

Table 4.1: Annual Inflation Rates in the Consumers' Price Index

	1983	1984	1985	1986	1987	1988
Belgium	7.7	6.3	4.9	1.3	1.6	1.9
Denmark	6.9	6.3	4.7	3.6	4.0	4.5
Germany	3.3	2.4	2.2	-0.2	0.2	1.6
Greece	20.2	18.4	19.3	23.0	16.4	14.0
Spain	12.2	11.2	7.8	8.8	5.3	5.9
France	9.6	7.3	5.9	2.7	3.1	(3.1)
Ireland	10.4	8.6	5.4	3.8	(3.1)	2.7
Italy	14.7	10.8	9.2	5.8	4.8	(5.4)
Luxembourg	8.7	6.5	4.1	0.3	-0.1	1.9
Netherlands	2.7	3.2	2.3	0.3	(-0.2)	1.0
Portugal	25.1	28.9	19.6	11.8	9.3	(11.7)
United Kingdom	4.6	5.0	6.1	3.4	4.1	6.8
Europe (12)	8.6	7.4	6.1	3.6	2.9	(4.4)
US	3.2	4.3	3.6	1.9	3.7	4.4
Japan	1.8	2.4	2.0	0.7	(0.0)	(0.9)

Source: European Economy, January and February 1989

Table 4.2: Annual Growth Rates in Money Stocks

	1983	1984	1985	1986	1987	1988
Belgium (M2)	8.7	5.9	7.6	11.5	10.5	8.1
Denmark (M2)	25.5	17.8	15.8	8.4	4.4	1.9
Germany (M3)	5.3	4.7	5.1	6.8	6.0	6.8
Greece (M3)	20.3	29.4	26.8	19.0	24.8	24.6
Spain (ALP)	15.9	13.2	12.8	11.4	14.0	10.9
France (M2)	13.7	9.8	6.0	4.1	4.3	4.2
Ireland (M3)	5.6	10.1	5.3	-1.0	10.9	4.6
Italy (M2)	13.3	12.1	10.8	9.4	8.3	8.4)
Netherlands (M2)	(10.7)	(6.8)	(10.5)	4.5	3.9	10.7
Portugal (L)	16.8	24.6	28.9	25.9	16.8	15.0
United Kingdom (LM3)	11.1	10.1	13.4	19.1	22.9	20.3
Europe (12) (m)	(11.4)	(9.8)	(9.6)	9.7	(10.1)	(9.8)
US (M2)	11.7	8.2	8.1	9.1	3.4	5.6
Japan (M2)	7.3	7.8	8.7	9.2	10.8	(10.4)

Source: European Economy, January and February 1989

Table 4.3: Consumptive credit in the Netherlands

	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
Provided by banks	4,338	4,445	4,397	4,378	4,493	4,396	4,677	5,238	5,678	5,869
Other	7,590	8,093	7,921	7,442	7,005	6,640	6,486	6,836	7,376	7,726
Total	11,928	12,538	12,318	11,820	11,498	11,036	11,163	12,074	13,054	13,595
In real terms (1980 = 100)	101	100	93	84	80	75	74	80	87	90

Source: De Nederlandsche Bank annual report 1988, Table 2.3 (millions of guilders)
        Price index: CPB, CEP 1989, C.1.

Table 5.1: Growth of real GNP/GDP in the OECD Area (percentage changes from previous period)

	1981	1982	1983	1984	1985	1986	1987
US	1.9	-2.5	3.6	6.8	3.4	2.8	3.4
Japan	3.7	3.1	3.2	5.1	4.9	2.4	4.3
Germany	0.0	-1.0	1.9	3.3	1.9	2.3	1.8
France	1.2	2.5	0.7	1.3	1.7	2.1	2.3
UK	-1.2	1.8	3.7	2.2	3.5	3.2	4.3
Italy	1.1	0.2	1.1	3.2	2.9	2.9	3.1
Canada	3.7	-3.2	3.2	6.3	4.6	3.2	4.0
Belgium	-1.4	1.5	0.2	2.2	0.9	2.0	2.1
Denmark	-0.9	3.0	2.5	4.4	4.2	3.3	-1.0
Ireland	2.6	-0.7	-1.6	2.0	-0.1	-1.3	4.8
Luxembourg	-0.2	1.5	3.0	6.5	3.8	2.9	2.0
Netherlands	-0.7	-1.4	1.4	3.2	2.4	2.1	1.3
Total OECD	1.6	-0.4	2.7	4.9	3.4	2.7	3.3
OECD Europe	0.2	0.8	1.8	2.6	2.6	2.6	2.8

Source: OECD, Economic Outlook, December 1988

Table 5.2: Savings in the Netherlands (as a percentage of net national income
at market prices)

	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
Private sector	11.6	10.6	12.0	14.7	14.6	15.7	14.9	16.0	15.6	15.6
Public sector*	0.6	1.0	-0.4	-2.7	-2.2	-1.2	0.1	-1.3	-2.2	-2.7
Current account	-1.4	-1.6	2.5	3.5	3.5	4.6	4.8	3.2	2.0	2.0
Capital account**	0.1	0.3	-1.3	-2.2	-2.4	-2.4	-3.2	-5.5	-1.5	-2.0

Source: Centraal Economisch Plan, 1988

* Including social insurance institutions
** Private and public sector

Table 5.3: Current Balances of OECD Countries* (percentage of GNP/GDP)

	1985	1986	1987	1988	1989
United States**	-2.9	-3.3	-3.6	-3.1	-2.6
Japan**	3.7	4.4	3.6	2.9	2.6
Germany**	2.6	4.2	3.9	3.8	3.3
France	-0.1	0.4	-0.5	-0.5	-0.6
United Kingdom	0.9	0	-0.4	-1.3	-1.6
Italy	-0.9	0.5	-0.1	-0.1	-0.1
Canada	-0.2	-1.8	-1.7	-1.9	-2.2
Total of the above countries	-0.7	-0.2	-0.4	-0.4	-0.3
Austria	-0.2	0.2	-0.1	-0.2	-0.4
Belgium-Luxembourg	0.8	2.6	1.8	1.4	1.2
Denmark	-4.6	-5.2	-2.9	-2.4	-2.2
Finland	-1.3	-1.3	-2.5	-2.5	-2.9
Greece	-9.8	-4.2	-2.7	-3.5	-4.1
Iceland	-4.2	0.4	-2.6	-3.9	..
Ireland**	-4.3	-3.1	1.7	2.0	1.2
Netherlands	4.3	2.6	1.5	1.7	1.9
Norway	5.3	-6.4	-5.0	-6.1	-5.8
Portugal	1.9	3.9	1.8	-0.2	-2.2
Spain	1.7	1.8	0.1	-0.7	-1.4
Sweden	-1.2	0.7	-0.6	-1.1	-1.4
Switzerland	5.6	5.0	4.1	3.4	3.1
Turkey**	-1.9	-2.6	-1.5	-1.4	-1.3
Total of smaller European countries	0.8	0.6	0.1	-0.3	-0.6
Australia	-5.5	-5.9	-4.5	-3.4	-3.1
New Zealand	-6.3	-5.5	-3.9	-2.6	-2.6
Total of smaller countries	-0.2	-0.3	-0.5	-0.7	-1.0
Total OECD	-0.6	-0.2	-0.4	-0.4	-0.4
Four major European countries	0.8	1.6	1.1	0.8	0.5
OECD Europe	0.8	1.3	0.8	0.4	0.2
EEC	0.8	1.4	0.9	0.6	0.3
Total OECD *less* the US	1.3	1.8	1.3	1.0	0.7

Source: OECD Economic Outlook, June 1988.

* Figures for 1988 and 1989 are projections.
** Percentage of GNP

Table 5.4: Growth in the volume of world trade

1977-79	1980	1981	1982	1983	1984	1985	1986	1987	1988
5-6	2.0	0.3	-2.3	1.8	8.3	3.1	4.1	6.2	9.0

Source: Central Planning Bureau, CEP 1989.

Table 6.1: Investment Behaviour of Pension Funds and Insurance Companies (September 1988)

	Private Sector Loans and Bonds	Private Sector, Equity	Building and Mortgage	Foreign Assets	Govern-ment	Total
Insurance Companies	27.4	10.2	42.1	9.3	37.5	126.5
Private Pension Funds	42.6	15.5	31.2	31.3	74.5	195.1
Civil Servants Pension Fund	30.0	3.1	15.7	4.3	92.9	146.0
Total	100.0	28.8	89.0	44.9	204.9	467.6
P.M. NNP 1988						401.2

Source: De Nederlandsche Bank annual report 1988, Table 2.2 (billions of guilders)

Discussion Paper Series, CentER, Tilburg University, The Netherlands:

(For previous papers please consult previous discussion papers.)

No.	Author(s)	Title
8932	E. van Damme, R. Selten and E. Winter	Alternating Bid Bargaining with a Smallest Money Unit
8933	H. Carlsson and E. van Damme	Global Payoff Uncertainty and Risk Dominance
8934	H. Huizinga	National Tax Policies towards Product-Innovating Multinational Enterprises
8935	C. Dang and D. Talman	A New Triangulation of the Unit Simplex for Computing Economic Equilibria
8936	Th. Nijman and M. Verbeek	The Nonresponse Bias in the Analysis of the Determinants of Total Annual Expenditures of Households Based on Panel Data
8937	A.P. Barten	The Estimation of Mixed Demand Systems
8938	G. Marini	Monetary Shocks and the Nominal Interest Rate
8939	W. Güth and E. van Damme	Equilibrium Selection in the Spence Signaling Game
8940	G. Marini and P. Scaramozzino	Monopolistic Competition, Expected Inflation and Contract Length
8941	J.K. Dagsvik	The Generalized Extreme Value Random Utility Model for Continuous Choice
8942	M.F.J. Steel	Weak Exogenity in Misspecified Sequential Models
8943	A. Roell	Dual Capacity Trading and the Quality of the Market
8944	C. Hsiao	Identification and Estimation of Dichotomous Latent Variables Models Using Panel Data
8945	R.P. Gilles	Equilibrium in a Pure Exchange Economy with an Arbitrary Communication Structure
8946	W.B. MacLeod and J.M. Malcomson	Efficient Specific Investments, Incomplete Contracts, and the Role of Market Alternatives
8947	A. van Soest and A. Kapteyn	The Impact of Minimum Wage Regulations on Employment and the Wage Rate Distribution
8948	P. Kooreman and B. Melenberg	Maximum Score Estimation in the Ordered Response Model

No.	Author(s)	Title
8949	C. Dang	The D_3-Triangulation for Simplicial Deformation Algorithms for Computing Solutions of Nonlinear Equations
8950	M. Cripps	Dealer Behaviour and Price Volatility in Asset Markets
8951	T. Wansbeek and A. Kapteyn	Simple Estimators for Dynamic Panel Data Models with Errors in Variables
8952	Y. Dai, G. van der Laan, D. Talman and Y. Yamamoto	A Simplicial Algorithm for the Nonlinear Stationary Point Problem on an Unbounded Polyhedron
8953	F. van der Ploeg	Risk Aversion, Intertemporal Substitution and Consumption: The CARA-LQ Problem
8954	A. Kapteyn, S. van de Geer, H. van de Stadt and T. Wansbeek	Interdependent Preferences: An Econometric Analysis
8955	L. Zou	Ownership Structure and Efficiency: An Incentive Mechanism Approach
8956	P.Kooreman and A. Kapteyn	On the Empirical Implementation of Some Game Theoretic Models of Household Labor Supply
8957	E. van Damme	Signaling and Forward Induction in a Market Entry Context
9001	A. van Soest, P. Kooreman and A. Kapteyn	Coherency and Regularity of Demand Systems with Equality and Inequality Constraints
9002	J.R. Magnus and B. Pesaran	Forecasting, Misspecification and Unit Roots: The Case of AR(1) Versus ARMA(1,1)
9003	J. Driffill and C. Schultz	Wage Setting and Stabilization Policy in a Game with Renegotiation
9004	M. McAleer, M.H. Pesaran and A. Bera	Alternative Approaches to Testing Non-Nested Models with Autocorrelated Disturbances: An Application to Models of U.S. Unemployment
9005	Th. ten Raa and M.F.J. Steel	A Stochastic Analysis of an Input-Output Model: Comment
9006	M. McAleer and C.R. McKenzie	Keynesian and New Classical Models of Unemployment Revisited
9007	J. Osiewalski and M.F.J. Steel	Semi-Conjugate Prior Densities in Multi-variate t Regression Models

No.	Author(s)	Title
9007	J. Osiewalski and M.F.J. Steel	Semi-Conjugate Prior Densities in Multi-variate t Regression Models
9008	G.W. Imbens	Duration Models with Time-Varying Coefficients
9009	G.W. Imbens	An Efficient Method of Moments Estimator for Discrete Choice Models with Choice-Based Sampling
9010	P. Deschamps	Expectations and Intertemporal Separability in an Empirical Model of Consumption and Investment under Uncertainty
9011	W. Güth and E. van Damme	Gorby Games - A Game Theoretic Analysis of Disarmament Campaigns and the Defense Efficiency-Hypothesis
9012	A. Horsley and A. Wrobel	The Existence of an Equilibrium Density for Marginal Cost Prices, and the Solution to the Shifting-Peak Problem
9013	A. Horsley and A. Wrobel	The Closedness of the Free-Disposal Hull of a Production Set
9014	A. Horsley and A. Wrobel	The Continuity of the Equilibrium Price Density: The Case of Symmetric Joint Costs, and a Solution to the Shifting-Pattern Problem
9015	A. van den Elzen, G. van der Laan and D. Talman	An Adjustment Process for an Exchange Economy with Linear Production Technologies
9016	P. Deschamps	On Fractional Demand Systems and Budget Share Positivity
9017	B.J. Christensen and N.M. Kiefer	The Exact Likelihood Function for an Empirical Job Search Model
9018	M. Verbeek and Th. Nijman	Testing for Selectivity Bias in Panel Data Models
9019	J.R. Magnus and B. Pesaran	Evaluation of Moments of Ratios of Quadratic Forms in Normal Variables and Related Statistics
9020	A. Robson	Status, the Distribution of Wealth, Social and Private Attitudes to Risk
9021	J.R. Magnus and B. Pesaran	Evaluation of Moments of Quadratic Forms in Normal Variables

No.	Author(s)	Title
9022	K. Kamiya and D. Talman	Linear Stationary Point Problems
9023	W. Emons	Good Times, Bad Times, and Vertical Upstream Integration
9024	C. Dang	The D_2-Triangulation for Simplicial Homotopy Algorithms for Computing Solutions of Nonlinear Equations
9025	K. Kamiya and D. Talman	Variable Dimension Simplicial Algorithm for Balanced Games
9026	P. Skott	Efficiency Wages, Mark-Up Pricing and Effective Demand
9027	C. Dang and D. Talman	The D_1-Triangulation in Simplicial Variable Dimension Algorithms for Computing Solutions of Nonlinear Equations
9028	J. Bai, A.J. Jakeman and M. McAleer	Discrimination Between Nested Two- and Three-Parameter Distributions: An Application to Models of Air Pollution
9029	Th. van de Klundert	Crowding out and the Wealth of Nations
9030	Th. van de Klundert and R. Gradus	Optimal Government Debt under Distortionary Taxation
9031	A. Weber	The Credibility of Monetary Target Announcements: An Empirical Evaluation
9032	J. Osiewalski and M. Steel	Robust Bayesian Inference in Elliptical Regression Models
9033	C. R. Wichers	The Linear-Algebraic Structure of Least Squares
9034	C. de Vries	On the Relation between GARCH and Stable Processes
9035	M.R. Baye, D.W. Jansen and Q. Li	Aggregation and the "Random Objective" Justification for Disturbances in Complete Demand Systems
9036	J. Driffill	The Term Structure of Interest Rates: Structural Stability and Macroeconomic Policy Changes in the UK
9037	F. van der Ploeg	Budgetary Aspects of Economic and Monetary Integration in Europe

No.	Author(s)	Title
9038	A. Robson	Existence of Nash Equilibrium in Mixed Strategies for Games where Payoffs Need not Be Continuous in Pure Strategies
9039	A. Robson	An "Informationally Robust Equilibrium" for Two-Person Nonzero-Sum Games
9040	M.R. Baye, G. Tian and J. Zhou	The Existence of Pure-Strategy Nash Equilibrium in Games with Payoffs that are not Quasiconcave
9041	M. Burnovsky and I. Zang	"Costless" Indirect Regulation of Monopolies with Substantial Entry Cost
9042	P.J. Deschamps	Joint Tests for Regularity and Autocorrelation in Allocation Systems
9043	S. Chib, J. Osiewalski and M. Steel	Posterior Inference on the Degrees of Freedom Parameter in Multivariate-t Regression Models
9044	H.A. Keuzenkamp	The Probability Approach in Economic Methodology: On the Relation between Haavelmo's Legacy and the Methodology of Economics
9045	I.M. Bomze and E.E.C. van Damme	A Dynamical Characterization of Evolutionarily Stable States
9046	E. van Damme	On Dominance Solvable Games and Equilibrium Selection Theories
9047	J. Driffill	Changes in Regime and the Term Structure: A Note
9048	A.J.J. Talman	General Equilibrium Programming
9049	H.A. Keuzenkamp and F. van der Ploeg	Saving, Investment, Government Finance and the Current Account: The Dutch Experience