

Foreign Debt, Foreign Trade and Living Conditions, with Special Reference to Denmark

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SUMMARY: This paper first recapitulates the main theorems concerning debt dynamics and the implications of high indebtedness both for living standards and for the conduct of economic policy. These theorems are used to evaluate the consequences for Denmark, in terms of lost real income and employment, of having a debt/GDP percentage above 40%. Tentative suggestions are made about how the indebtedness might have been avoided and also about the strategic policy options as Denmark moves towards a closer relationship to the EEC.

When people (e.g. Dornbush, 1989) speak of the international debt crisis they are generally referring to the problems caused by foreign debts owed by less developed countries (LDCs) such as Ecuador and Nigeria. However in two European countries, Denmark and Ireland, the ratio of foreign debt to GDP has risen over the past ten or fifteen years to levels comparable with the debt ratios of LDCs. For instance in 1982 when «the» international debt crisis first broke, the average debt ratio of all the countries conventionally classified as «heavily indebted» was 45,6%. In 1988 the Danish debt ratio was about 43% while the Irish debt ratio was at least as large.

There has never been any question, in the public discussion, that the debt problem of the LDCs is an extremely serious one, at once severely impoverishing the debtor countries and constituting a grave threat to the international financial system. The scope of, and participation in, the discussion, although entirely unresolved, is quite coherent because these debtors can broadly be identified as governments while their direct creditors can be identified as being (mainly) commercial banks, mostly with US names.

In Denmark, on the other hand, the extremely high level of foreign debt, even now, is not universally recognized as constituting a serious problem at all. Moreover the way in which the debt has been accumulated in the context of free movements of international capital means that the ability to borrow has never appeared as a constraint. It is our

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argument that notwithstanding the absence of this constraint the debt has placed a heavy burden on Denmark just as it has on the LDCs.

Some useful accounting

In the following section we recapitulate some of the main theorems concerning debt dynamics and the implications of high indebtedness both for living standards and for the conduct of economic policy.

The growth in the nominal stock of foreign debt denominated in domestic currency is given by

$$\Delta D_f = M - X + R_h \cdot D_{h-1} + e \cdot R_f \cdot D_{f-1} + \Delta e \cdot D_{f-1} \quad (1)$$

Where (as throughout this paper) Δ is a first difference operator, a dot denotes a proportionate change (e.g. $\dot{e} = \Delta e/e_{-1}$), capital letters denote variables at current prices:

D_f = Total foreign debt (measured in domestic currency)

D_h = That part of the foreign debt which is denominated in domestic currency

D_f = That part of the foreign debt which is denominated in foreign currency

M = Imports

X = Exports

R_h = The domestic rate interest

R_f = The foreign rate of interest

e = The nominal exchange rate

Equation (1) says simply that the change in the stock of foreign debt in nominal terms in any period is given by the trade deficit, plus interest payments on the two types of debt, plus any revaluation of the opening stock of debt because of exchange rate changes.

We shall assume that there is uncovered interest parity between domestic and foreign rates and that expectations are fulfilled. Hence domestic and foreign interest are related

$$(1 + R_h) = (1 + \dot{e}) \cdot (1 + R_f) \quad (2)$$

Substituting (2) into (1) gives, after some rearrangement.

$$\Delta D_f = M - X + [(1 + \dot{e}) \cdot R_f + \dot{e}] \cdot D_{f-1} \quad (3)$$

It is now easy to show that the change in the real (deflated) stock of foreign debt is given by the expression

$$\Delta d_f = m - x + r_f \cdot d_{f-1} \quad (4)$$

where all l.c. letters describe real variables i.e. nominal variables deflated by the same price index (e.g. the GDP deflator or consumer price index)

$$d = D/p \quad (5)$$

$$m = M/p \quad (6)$$

$$x = X/p \quad (7)$$

and r_f , the real rate of interest on foreign debt, is a modified version of the Fisher equation¹

$$r_f = \frac{R_f (1 + \dot{e}) + \dot{e} - \dot{p}}{1 + p} \quad (8)$$

Equation (4) says that the change in the stock of real debt is equal to the real trade deficit plus the real rate of interest times the opening real stock of debt.

Note that our assumptions concerning uncovered interest parity and perfect foresight imply that no difference whatever is made to changes in the real stock of debt by its currency composition, and that for a small open economy like Denmark, all of its debt is effectively foreign currency denominated.

We next postulate that there is a rate of growth of real output at which unemployment neither rises nor falls. This, sometimes called the »constant unemployment« (c.u.) growth rate, we shall describe by the symbol g .

To keep the real debt constant as a proportion of c.u. GDP it must be the case that

$$\Delta d_f = g \cdot d_{f,1} \quad (9)$$

Finally, putting (9) into (4) we infer that to keep the debt constant as a proportion of c.u. output there must be a real trade surplus which satisfies

$$x - m = (r_f - g) \cdot d_{f,1} \quad (10)$$

Alternatively the trade surplus as a proportion of GDP must satisfy

$$(r_f - g) \cdot \delta$$

where δ is the ratio of debt to GDP.

These symbols may be brought to life by pointing out that for Denmark the relevant numbers are approximately

$$r_f = 7.5\%$$

$$g = 2\%$$

$$\delta = 40\%$$

1. To spell it out, note that $\frac{D_{t+1}}{p} = \frac{d_t}{1+p}$. Dividing (1) by p and rearranging the terms yield the results in the text.

Accordingly, assuming that real interest rates do not fall, there now has to be a trade surplus equal to 2.2% of GDP (that would be, for 1989, about 17 bill. Kr. at current prices) to keep the debt proportion constant.

A trade surplus of only 2% would, of course, still imply a current account deficit, requiring continued further borrowing.

It will be useful to bear in mind that if the current account is kept constant as a percentage of GDP then the debt percentage must eventually move to the current account percentage divided by the growth rate². Thus if the current account is 4% of GDP (as was the case in Denmark in 1986) and the growth rate only 2%, then the debt must inevitably move towards a level double that of GDP, only at this level would both be growing at the same rate.

The cost of indebtedness

The simplest way of measuring the cost to Denmark of its indebtedness is by estimating the reduction in real resources available for domestic use which is necessary if the debt is to be serviced given, also, that the debt ratio is prevented from rising further.

This cost depends, in theory, on how the debt ratio is stabilized. For instance, a devaluation, if successful along textbook lines, could generate a large enough improvement in the trade balance without there being any reduction in output. The difficulty with this (apart from any complications with the EMS) is that there has in the past been a response of money wages to price changes which, if repeated, would render the devaluation partially ineffective. Even more important, the existence of the present level of debt, mainly denominated in foreign currency, means that a devaluation could by itself increase the real burden of the debt by more than it would improve the trade balance (even if it could be assumed that there were no response in money wages). At all events we carried out simulations of a Danish devaluation³ which allowed for wage feedbacks, which showed that although this might be temporarily be beneficial to the balance of trade, it also caused such a rise in interest payments that the current account was at no stage improved compared with what otherwise would have happened.

An alternative solution, in theory, is the imposition of import controls. This (in theory again) could improve the trade balance without reducing output, without increasing the real burden of debt and also, if appropriately devised, without adding much, if anything, to inflation. The obstacles to such a course of action will almost certainly be considered insuperable in view of Denmark's commitment to the EEC.

Whatever other solutions there might be, we do not have to be theoretical about the solution actually adopted by the Danish government. Clearly and correctly (if belatedly),

2. The debt ratio converges to $\alpha - g/(1+g)$ where α is the current account as a percentage of GDP.

3. Using the simple pedagogical model described in Godley-Zezza (1989).

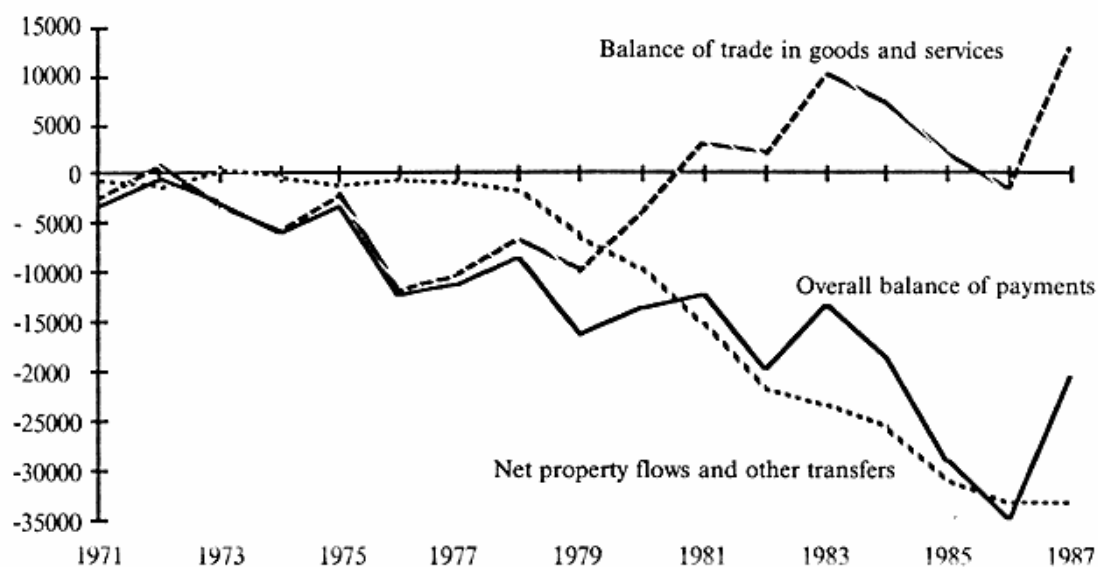


Chart 1. Denmark. The balance of payments on current account and its components.

convinced of the gravity of the problem, the government has resorted to the only solution left, namely restriction on imports through deflation of domestic demand. This policy makes our task of calculating the actual resource cost of indebtedness a relatively easy one.

The loss of resources available for domestic absorption under a policy of deflation is made up of two components. First there is the loss which is the counterpart of the (otherwise unnecessary) trade surplus which we have already calculated to be 2% of GDP. But *on top of this* there is the loss of real resources which is the counterpart of the reduction in GDP itself which is necessary to generate the trade surplus. As the marginal propensity to import is around 1/3, there has to be a loss of resources equal to around 8% (i.e. 6% plus 2%) of GDP, or 55 bill. Kr. at current prices.

An alternative way to reach an estimate of the resource cost is by reference to recent history in combination with official forecasts for 1989. These show the current account and the trade balance improving on just about the required scale, with the trade surplus rising to about 2% of GDP. However they also show zero growth over three years, implying a progressive shortfall of output of 6% compared with what it would otherwise be.

In the computation of cost, the otherwise unnecessary rise in unemployment should surely be considered as a burden distinct from and additional to the loss of resources.

Conjectures on aetiology

How was it that Denmark alone of all the EEC countries (always excepting Ireland) became so heavily indebted?

As the chart shows, the balance of payments deficit until 1978 was almost entirely accounted for by the deficit in trade in goods and services. Although debt as a proportion of GDP rose from 14% in 1971 to 22% in 1978 there were practically no interest payments to foreigners during this period because interest rates were extremely low; nominal interest rates averaged about 3.5% and real interest rates were substantially negative. However, from 1979 onwards, although the trade balance improved rapidly, there was a rise in interest payments so large that it caused the current account as a whole to go on deteriorating so the debt went on rising rapidly, reaching nearly 40% by 1984.

Noting that much of the debt was accumulated in the seventies, we carried out the following simulation experiment using our simple model of the Danish economy. Keeping all else constant, we added ten percentage points to the average rate of direct tax between 1975 and 1980, reduced the tax rate again (to what it actually was) between 1981 to 1986, then reduced it (compared with the actual rate) from 1987 onwards by four points. The consequences, if they are to be believed, are quite dramatic. At the cost of a rise in unemployment to the 200,000 plus level rather earlier than actually happened, no addition at all to the foreign debt would have occurred. Although little difference is made either to the growth of output or to unemployment over the whole period, the debt/GDP ratio (according to this simulation of the model) is still under 10% in 1988. The huge reduction in the burden of debt service means that personal consumption is 7.5% higher than that actually recorded in 1988 while private investment is about 3% higher.

Strategic policy options

The strategic problems facing the Danish economic policy maker would seem (at least to the outsider) to be very serious and very intractable. The present scale of Danish indebtedness appears to be locking the economy into a stagnant condition with unemployment in the region of 250,000, while domestic absorption of goods and services is condemned to be lower, indefinitely, than domestic production. Any attempt to generate a recovery by fiscal or monetary policy alone could probably only be successful temporarily and at the expense of making things worse later on. Devaluation, if only because of the high level of indebtedness (but for other reasons as well), would not now appear to be a feasible option. Nor is protection a realistic policy option given membership of the EEC.

In the public discussion in the UK (which also has severe strategic problems connected with international trade) there is an idea going round that membership of the unified interior market of the EEC, if accompanied by some kind of monetary union, would by itself eliminate problems connected with a balance of payments deficit. In support of this contention the analogy is sometimes used of the component regions of a single state Scotland, say, or Northern Ireland within the UK which never have balance of payments »crises«.

This analogy seems to us to be dangerously misleading, because regions of a single nation are part of a unified fiscal system. The point may be illustrated by the following hypothetical example. Imagine a region so inefficient that there was no private production of goods and services at all. By assumption there would be no exports from such a region while all consumption would consist of imports, so there would be a trade deficit exactly equal to consumption. The disposable income of this region would comprise the post tax pay of public servants (e.g. police, teachers, health workers), while all other income would take the form of unemployment benefits, pensions and other income support payments. Given a unified fiscal system, not only is such a basic level of income support guaranteed (even when nothing at all is produced privately) but the trade deficit is financed by central government wages and salaries and other current transfers; in other words the deficit is not merely financed automatically, it is financed *without the region incurring any debt*.

The existence of a free trade area and of a currency union, with no significant provision for fiscal equalisation, carries no implication whatever of any comparable healing mechanism; so far as we know, examples drawn from history rather provide support for the opposite view. For instance the fact that, following independence, the Republic of Ireland had a common currency with the UK from the thirties through the fifties (at least), did not in the absence of a unified fiscal system save it from serious and endemic poverty.

Withdrawal of Denmark from the EEC will surely now seem impossible. It would therefore appear to be of the utmost importance that terms for any closer economic union should be negotiated which ensure that Denmark receives substantial benefits of the kind which, within a single sovereign state, would be associated with regional policy. These should ensure some significant degree of fiscal equalisation; but there should also be a location of industry policy which ensures that Denmark shares fully in the prosperous development potentially available to her.

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