Economic Perspectives

THE SCOTTISH ECONOMY TO 1990

by I H McNicoll*

Over the past three years the Fraser of Allander Institute, partly supported by an SSRC grant, has been developing a medium-term multisectoral forecasting model of the Scottish economy. A fairly aggregated version of the model was made operational in 1981 and its formulation and performance were discussed in an earlier monograph (Bell et al (1982)). During the past year the model, whilst retaining essentially the same structure, has been further developed and extended; in particular the number of individually forecast industrial sectors has been increased from 16 to 42. The first forecasts with the extended model were made in autumn this year and presented to an invited audience at Strathclyde Business School in September. This note summarises and discusses the results of these forecasts. Further details of the results will be made available to subscribers to the Institute's Business Forecasting Service, while the methodological aspects of the forecasts will be discussed in a forthcoming Institute Discussion Paper.

In our forecasts the medium term is taken as the period 1982-90, with each year being an individual market clearing period. For the sub-period 1982-86, the model attempts to forecast both cyclical and trend developments in the Scottish economy, while for 1986-90 only trends are forecast.

As indicated previously, the Medium Term Model is driven by final expenditures (demand), the levels and compositions of which are determined exogenously. The forecasts of the principal final expenditures can be summarised as follows:

(a) **Household Consumption** Based on an expectation of increasing, albeit slowly, real disposable income, it is forecast that consumption will grow at approximately 1.4% per annum in real terms between 1982 and 1986, and at 1% per annum thereafter.

(b) **Government Current Expenditure** Fuelled in part by increases in defence expenditure and health and welfare expenditures, it is forecast that government expenditure will grow by 1.9% per annum in the period 1982-86, and at 3.0% per annum between 1986 and 1990.

(c) **Investment** It is forecast that investment generally will recover from presently chronically low levels and will gain further impetus from developments in new industries such as electronics and petrochemicals.

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*The development of the Medium Term Model has involved most of the staff of the Fraser Institute.

These expectations lead us to predict a fairly rapid real growth rate in investment of 3.1% per annum between 1982 and 1986 and 2.0% per annum thereafter.

(d) **Exports to the Rest of the UK** It is assumed Scotland's overall share of the rest of the UK market will remain roughly constant. Our perspective of the prospects for the UK economy led us to predict a growth rate of 2.0% per annum for exports to the rest of the UK until 1986 and 1.5% per annum thereafter.

(e) **Exports to the Rest of the World** From our own assessment of trends in the world economy we expect that exports to the rest of the world will grow at 3.4% per annum, from 1982 to 1986 and 3.5% per annum thereafter.

The forecast growth rate in the components of total final expenditure is shown in Table 1. As can be seen,it is forecast that,on average, total final expenditure will grow at 2.2% per annum in the period 1982-86 and at 1.9% per annum between 1986 and 1990. For comparative purposes, final expenditure in the UK has **fallen** by about 0.6% per annum between 1979 and 1982. On the other hand, the London Business School (Economic Outlook October 1982) is forecasting 2.3% per annum growth rate in UK final expenditure in the period 1982-1986.

The extent to which the forecast growth in Scottish demand benefits Scottish industry depends on the proportion of demand which is met from domestic production rather than imports. Import penetration, particularly of manufactures, has increased rapidly over the past decade, and we forecast that this trend will continue for most manufactured goods, albeit at a slower rate, until 1986 and remain constant at 1986 levels thereafter. Though derived independently, this view of import penetration is again consistent with recent London Business School thinking (**op cit** p49).

The forecast increase in import penetration has two major implications for Scottish economic activity: firstly, imports will grow more rapidly than total demand, and secondly, Scottish output will grow more slowly than demand. These implications are clearly demonstrated in rows 2, 3 and 4 of Table 1. Gross Domestic Product (GDP) is a useful measure of the annual change in a country's real income and as shown in row 4, Table 1, Scottish GDP is forecast to rise at an average rate of 1.8% per annum between 1982 and 1986. This fairly modest growth rate is similar to that experienced by Scotland during the 1970's prior to the present recession when GDP has actually **fallen** somewhat.

Row 5 of Table 1 shows the forecast for an important component of total Scottish output ie manufacturing output. As can be seen, in spite of increasing import penetration, manufacturing output is expected to grow at an average of about 2.0% per annum over the whole period. This forecast growth in Scottish manufacturing, a sharp contrast to recent experience, largely depends on the previously discussed assumptions of relatively fast growth in exports to the rest of the UK and abroad: together these markets form **the** major source of demand for most Scottish manufacturers. More generally, these various results clearly demonstrate the importance of external trade to the well-being of Scottish manufacturing: a slight increase in the forecast rate of import penetration or a slight decrease in the forecast growth of exports would be sufficient to eradicate the forecast growth in manufacturing entirely. It should also be remembered that the present recession has left Scottish manufacturing output at unprecedently low levels. At our forecast growth rate, it will be approximately 1986 before the 1978 level of manufacturing output is re-attained.

The MTM also provides forecasts of employment in Scotland and these are summarised in rows 6 and 7 of Table 1 with more detail being provided in Table 2. From these it can be seen that, in spite of the forecast recovery in output, the continuous introduction of labour-saving techniques will be such as to lead to further falls in Scottish employment. Between 1982 and 1990, it is forecast that employment will fall by 93,500 or 4.4% of the 1982 labour force. As in the recent past, much of the job losses will be concentrated in manufacturing, where employment will fall by 48,500 over the eight year period.

By comparing the MTM's forecasts of labour demand with available forecasts of labour supply, it is possible to forecast the extent of Scottish unemployment in the medium term future. The latest Manpower Services Commission estimates suggest that labour supply in Scotland in 1986 will be approximately 2.52 million. The MTM forecasts that labour demand in the same year will be 2.08 million (see Table 2). Taken together, these forecasts suggest a level of registered and unregistered unemployment of 438,000 in 1986, or 17.4% of the workforce in that year. By comparison, total registered unemployment in October 1982 was 353,000 or 15.8% of the workforce.

In conclusion, the Medium Term Model provides detailed forecasts for each of forty-two sectors of the Scottish economy over a ten year period, though there is insufficient space in this paper to discuss individual industry results. The most recent forecasts from the model suggest that the Scottish economy will grow fairly modestly for the remainder of the decade; indeed, in general terms, it is expected that the economy will return to its historic, pre-recession, growth path. The recovery is expected to be export led, and its fragility is demonstrated by the fact that already the export forecasts in the current run look optimistic in view of more recent pessimism on the prospects for world trade. Even if the forecast growth rates in output do materialise, these will be insufficient, on a 'no policy change' basis, to stop unemployment continuing to rise, reaching a forecast 17.4% of the workforce in 1986.

TABLE 1 SUMMARY RESULTS OF MEDIUM TERM MODEL FORECASTS

	ANNUAL AVERAGE REAL GROWTH IN:	
	1982-86	**1986-90**
(1) Total Final Expenditure	+ 2.2	+ 1.9
(2) Imports	+ 2.8	+ 1.9
(3) Total Scottish Output	+ 1.9	+ 2.0
(4) Scottish GDP	+ 1.8	+ 1.9
(5) Scottish Manufacturing Output	+ 2.0	+ 2.1
(6) Total Scottish Employment	- 0.5	- 0.6
(7) Scottish Manufacturing Employment	- 1.4	- 1.3

Source: Scottish Medium Term Model

TABLE 2 FORECAST EMPLOYMENT IN SCOTLAND

Forecasts for the demand for labour over the period 1982-1990 are shown below:

Sector	1982	Employment (thousands) 1986	1990
Agriculture, Forestry & Fishing	43.0	42.0	42.1
Mining & Quarrying	41.0	40.8	41.2
Food, Drink & Tobacco	75.0	71.1	67.3
Coal & Chemical products	29.0	29.0	29.0
Metal Manufacture	27.0	24.9	23.1
Engineering	190.0	183.0	175.3
Leather, Textiles, Clothing, Footwear	67.0	61.7	58.4
Timber & Furniture	15.7	14.3	13.0
Bricks, Pottery, Glass & Cement	13.6	12.1	11.1
Paper, Printing & Publishing	34.7	30.9	28.4
Other Manufacturing	11.1	10.0	9.1
Construction	131.0	140.9	147.1
Gas, Electricity & Water	28.5	28.5	28.5
Transport & Communication	123.0	123.0	123.0
Distribution	217.0	207.6	198.5
Other Services	807.0	789.1	765.0
Total Employment	1,853.5	1,808.8	1,760.0
Total Civilian Employment	2,121.5	2,076.8	2,028.0
Total Employment in Manufacturing Industries	463.1	437.0	414.6
Unemployment Rate (%)	14.7	17.4	N/A

Reference

D Bell et al (1982) **The Development of a Medium Term Model for Scotland I: Projections to 1984**, Research Monograph No 10, Fraser of Allander Institute, Glasgow.