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THE ROLE OF TRANSPORT IN COUNTER-CYCLICAL POLICY

EUROPEAN CONFERENCE OF MINISTERS OF TRANSPORT

PARIS 1978

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on the following topic:

THE ROLE OF TRANSPORT IN COUNTER-CYCLICAL POLICY

EUROPEAN CONFERENCE OF MINISTERS OF TRANSPORT

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THE ROLE OF TRANSPORT IN COUNTER-CYCLICAL POLICY

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INTRODUCTION

Counter-cyclical policy relates to short-term measures taken by governments to flatten out the peaks and depressions of the trade cycle. Transport can be affected by such policies in three ways:

1) The counter-cyclical measures can be aimed directly and solely at the transport sector, e.g. fuel taxes, infrastructure investment, transport tariffs and licences.
2) Counter-cyclical measures can be aimed directly, but not solely, at the transport sector in the form, for example, of corporation and profits taxes, investment allowances.
3) Counter-cyclical measures can affect the transport sector indirectly through changing the demand for its services. This might result on the passenger side through changes in the levels of personal allowances and income tax, or on the freight side through changes in allowances, subsidies or taxation of industry.

Although this study is devoted to counter-cyclical policy, which is by definition short or medium term policy, this is irrevocably tied up with longer term policies of governments which may, as with the counter-cyclical policies, have direct or indirect effects on the transport industry. Thus the effects of counter-cyclical measures will depend upon the structure and operating conditions of a particular mode, both of which will have been determined in substantial measure by the long term policy of governments towards the transport industry. Attention has, therefore, been paid in the study to the inter-play of longer-term structural policies of governments and counter-cyclical policies, as well as counter-cyclical policies per se.

The work is divided into two main sections: Chapter I dealing with the general form of trade cycles and the aims and instruments of counter-cyclical policy, whilst Chapter II is devoted to counter-cyclical policy and transport with analyses in relation to each of the three aforementioned groups.

Chapter I

THE TRADE CYCLE

Economists are generally agreed that two forms of general economic change are a feature of capitalist economies. The one is a persistent long-term trend and the other characterised by short-period fluctuations.

During the nineteenth and twentieth centuries growth of production has been the dominant secular characteristic of Western industrialised countries, this upward trend has, however, been subject to fluctuations. The nature of these fluctuations has in the opinion of many economists been sufficiently regular to warrant the description of cycle.

Schumpeter(1) maintained that cycles of different durations existed simultaneously and that business activity could be explained in relation to these separate cycles imposed upon each other. These three cycles were considered to be of 40 to 60 years (the Kondratieff cycle); eight to eleven years (the Juglar cycle); and four to five years (the trade cycle). In Schumpeter's view innovations (in which he included such things as territorial expansion as well as technological change) were responsible for all three cycles. More recent works(2) have cast doubts on the existence of both the Kondratieff and the Juglar cycles (in the case of the former not least because of lack of sufficient data) and opinion has shifted in favour of an intermediate cycle of about 22 years (the Kuznets cycle).(3)

No generally accepted explanation of these intermediate swings exists nor is there indeed agreement on the separate nature of these intermediate cycles and the trade cycle. It does, however, appear to be the case that the Kuznets cycles are related to the established building cycles of about 20 years' duration.

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1) Business cycles by J.A. Schumpeter (New York, 1939)

2) Measuring Business Cycles by A.F. Burns and W.C. Mitchell (New York, 1946) and The Business Cycle by R.C.O. Matthews (Chicago, 1959)

3) Secular Movements in Production and Prices by S. Kuznets (New York, 1930)

For economic management purposes it is the trade cycle which is of primary importance. Although the existence of this cycle is without the controversy attached to longer period cycles it has nevertheless demonstrated irregular behaviour. In the United States in the one hundred years 1857-1957, for example, the duration of the cycle varied between 28 and 99 months.(1)

Given the existence of an intermediate cycle superimposed upon the trade cycle this would have prevented any completely regular trade cycle occurring even if the economy, free of external shocks, had been able to generate one. Nevertheless trade cycles have shown sufficient regularity to suggest that the fluctuations may be due to certain recurring causes capable of identification. Identification being an important step towards control.

Theories based upon both exogenous and endogenous causes have been developed. It is, of course, natural to think that endogenous rather than exogenous factors would be responsible for a regular cycle of business activity and the huge bulk of trade cycle theory has relied upon an endogenous explanation of events. Nevertheless, the "limiting concept" of the exogenous case, namely that the regular basis of the trade cycle is generated by completely random external shocks has elicited some interesting results. It has been shown(2), for example, that the application of random shocks to models in which endogenous fluctuations are impossible can result in regular fluctuations not dissimilar from actual trade cycles.

An examination of endogenous theories, many of which are based on multiplier-accelerator models, is out of place here. Given, however, that there is no general agreement on the regular basis of the trade cycle and that irregularities can most certainly be caused by exogenous shocks, e.g. technical innovation, change in demand, the most suitable way forward is through an analysis of actual trade cycles.

The nature and causes of trade-cycles vary from country to country and although there exist common features no global analysis is possible. Two important aspects of trade cycles suggest the types of country best selected for comparative purposes. Firstly, external influences can be important depending upon the relative size and make-up of a country's foreign trade sector. In the United States the foreign trade sector only represents some 6 per cent of Gross National Product. In Europe although the corresponding figure is as low as 17 per cent for France it approaches one-quarter

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1) See Business Cycle Indicators by G.H. Moore (Princeton University, Press, 1960)

2) Business Cycles - Endogenous or Stochastic, by I. Adelman in the Economic Journal, December 1960.

of Gross National Product in Germany and the United Kingdom, and reached about two-fifths of Gross National Product in Belgium.

Secondly, the extent of counter-cyclical policy has varied substantially between countries. Although a number of countries, e.g. Germany and the United States, pursued budget deficit policies in the depression of the 1930s as a necessary consequence of the public works programmes designed to aleviate unemployment, it was only in Sweden in the pre-war decade that counter-cyclical policy through the medium of unbalanced budgets was systematically adopted. Since 1945 the budget has been actively employed as a counter-cyclical instrument in the United Kingdom, but it was not until the early and mid 1960s respectively that the United States and Germany adopted this principle (the principle was not, in fact, finally confirmed in Germany until the Stabilisation Law of 1967).

It appears pertinent, therefore, to compare the nature of the pre- and post-war trade cycles in the United States and in the United Kingdom and this is the purpose of the following section.

Pre- and Post-War Trade Cycles in the United States and the United Kingdom

With the exceptions of 1902-4 and 1926 following the South African War and the General Strike respectively, every major decline in business activity in the United Kingdom between the collapse of the railway boom in 1845 and the outbreak of the Second World War can be attributed either partly or wholly to events in the rest of the world.(1) With such a large export sector business depressions in the rest of the world naturally led to a fall-off in demand for a substantial section of the United Kingdom industry, but because of the importance of London as an international finance market external declines in activity were also indirectly felt by the United Kingdom industry through the money market. Foreign financial crises led to tighter credit and higher interest rates in London, and this found its expression in reduced investment and stock accumulation in United Kingdom industry. A fall in personal consumption followed later as a secondary effect of the decline in business activity and the rise in unemployment. It is of particular interest to analyse the sequence of events relating to the Great Depression of the 1930s. The key indicators are given in Table I below.

The effects of the depression of 1930-33 result directly from the substantial fall-off in exports in 1930 and 1931. Stock accumulation did not fall until 1931 and fixed investment did not fall

1) Business Cycles in Britain, by F.W. Paish (Lloyds Bank Review, October 1970)

markedly until 1932. Of considerable note is the rise in personal consumption in 1930, 1931 and 1933. The maintenance of personal consumption resulted from a marked fall in import prices and the consequent improvement in the terms of trade. The improvement of 26 per cent in the terms of trade between 1929 and 1933 was equivalent to a 7 per cent increase in real incomes and this was sufficient to offset most of the 9 per cent fall in Gross Domestic Product during this period. The fact is that those who remained in employment were appreciably better off on average in 1932 than they had been in 1929.

The improvements in the terms of trade which accompanied a fall-off in exports in the pre-war period was such as to allow imports to continue at the same level in quantity terms without any adverse effect on the balance of payments.

In the United States the effects of the Great Depression were much more dramatic. With the foreign trade sector the smallest sector of the United States economy, the depression, unlike in the United Kingdom, was internally generated. The key indicators are given in Table II below.

In the three years 1929 to 1932 the Gross National Product fell by almost 30 per cent in real terms. Industrial production nearly halved as did consumer expenditure. Wholesale prices and agricultural prices fell dramatically and some estimates put the number of unemployed at the depth of the depression as high as 16 million persons.

A feature of the 1920s in the United States had been a combination of new technology and optimism which manifested itself in increasing capital investment. This investment reached a peak in the years 1928-29 which was the same time as the peak of the stock market boom. It is the case that this investment was predominately in relation to final products, but it is inconceivable that the increase in total consumption could have maintained investment at the level it reached in the peak years at the end of the 1920s. The downturn in 1929 was due to over-investment and subsequent lack of confidence rather than any under-consumption. The commercial banks' lending principles had been unsound in their encouragement of the speculative investment, and their collapse together with that of other financial institutions and the stock market some time earlier brought the depression to its lowest point.

It would not be too much of an exaggeration to say that the boom of the 1920s in the United States and the ensuing depression of 1929-33 resulted from over-confidence and lack of confidence in the economy respectively. The restoration of business confidence through Government intervention was thus a vital factor leading to the upswing of 1933-37. This range of Government actions including

Table Ia

CHANGES IN OUTPUT AND EXPENDITURE AT 1958 MARKET PRICES
(as percentages of previous year's gross domestic product)

	Gross domestic product	Personal consumption	Public authorities' current expenditure	Gross fixed investment	Stock accumulation	Trade in goods and services		
						Exports	Imports	Balance
A. 1901-1913								
1901	+1.2	+0.9	+1.0	+0.5	-1.2	+0.5	+0.6	-0.1
1902	+1.1	-0.2	-0.5	+0.6	+0.6	+0.9	+0.3	+0.6
1903	-2.2	-0.5	-1.6	-	-0.6	+0.9	+0.4	+0.5
1904	+0.7	+0.7	-0.5	-0.4	+0.6	+0.5	+0.2	+0.3
1905	+2.1	-0.2	-0.2	-0.2	+1.0	+2.3	+0.6	+1.7
1906	+1.6	+0.7	-0.1	-0.4	+0.4	+1.9	+0.9	+1.0
1907	+0.1	+0.7	-0.1	-1.6	-0.2	+1.5	+0.3	+1.2
1908	-5.4	-0.1	+0.1	-1.6	-2.7	-2.3	-1.3	-1.1
1909	+2.6	-0.5	+0.4	-	+1.9	+1.7	+1.0	+0.7
1910	+3.3	+0.5	+0.3	+0.3	+0.6	+2.3	+0.7	+1.6
1911	+2.5	+2.2	+0.1	-0.3	+0.2	+1.0	+0.8	+0.2
1912	+0.5	+0.2	-	-	+0.1	+1.8	+1.7	+0.1
1913	+3.0	+1.7	+0.4	+1.0	-0.3	+0.9	+0.6	+0.3
B. 1922-1938								
1922	+0.3	+2.7	-0.3	-0.6	-4.1	+5.9	+3.2	+2.7
1923	+2.8	+2.3	-0.5	-0.1	+0.6	+2.1	+1.6	+0.5
1924	+2.6	+2.0	+0.2	+1.7	+1.4	+0.2	+3.0	-2.8
1925	+6.3	+1.8	+0.4	+1.6	+3.1	-	+0.5	-0.6
1926	-5.7	-0.3	+0.2	-0.9	-2.4	-1.7	+0.7	-2.4
1927	+8.2	+3.2	+0.2	+1.7	+0.7	+3.0	+0.6	+2.4
1928	+2.3	+1.3	+0.2	+0.2	-0.6	+0.5	-0.7	+1.2
1929	+2.4	+1.6	+0.3	+0.4	+0.5	+0.8	+1.2	-0.4
1930	-0.7	+1.1	+0.2	-0.2	+1.4	-3.8	-0.6	-3.2
1931	-6.5	+0.8	+0.3	-0.3	-2.4	-4.2	+0.6	-4.9
1932	-0.3	-0.5	-	-1.8	+0.1	-1.1	-2.9	+1.8
1933	+0.6	+1.9	+0.1	+0.2	-2.3	+0.4	-0.3	+0.7
1934	+8.9	+2.6	+0.3	+2.6	+3.4	+1.3	+1.3	-
1935	+3.4	+2.3	+0.7	+0.5	-0.8	+1.9	+1.1	+0.8
1936	+3.3	+2.3	+1.0	+1.4	-0.3	-0.3	+0.7	-1.0
1937	+5.0	+1.3	+1.4	+0.2	+1.7	+1.7	+1.3	+0.4
1938	+3.1	+0.4	+2.7	+0.5	+0.7	-2.1	-1.0	-1.1

Source: Business Cycles in Britain by F.W. Paish (Lloyds Bank Review, October 1970)

Table Ib

BANK RATE, TERMS OF TRADE, CONSUMER PRICES AND UNEMPLOYMENT

	Export surplus(1) £m	Bank rate		Prices (1958 = 100)					Unemployment percentage in United Kingdom(2)
		Range %	Average %	Commodity trade			Consumer goods and services	GDP at factor cost	
				Imports	Exports	Terms of trade			
A. 1900-1913									
1900	46	3-6	4.0	23	17	74	18.1	18.1	2.5
1901	41	3-5	3.7	22	16	73	18.4	18.0	3.3
1902	40	3-4	3.3	22	15	68	18.5	17.8	4.0
1903	44	3-4	3.7	22	15	68	18.8	17.9	4.7
1904	51	3-4	3.6	22	16	73	18.8	17.9	6.0
1905	89	2.5-4	3.0	22	16	73	19.1	18.0	5.0
1906	121	3.5-6	4.3	23	16	70	19.2	18.2	3.6
1907	160	4-7	4.9	24	17	71	19.5	18.7	3.7
1908	151	2.5-6	3.0	23	17	74	19.6	18.8	7.8
1909	143	2.5-5	3.1	24	16	67	19.9	18.8	7.7
1910	174	3-5	3.7	25	17	68	20.3	18.8	4.7
1911	205	3-4.5	3.5	24	17	71	20.3	19.1	3.0
1912	203	3-5	3.8	25	17	68	21.0	19.6	3.2
1913	238	4.5-5	4.8	25	18	72	21.2	20.0	2.1
B. 1919-1938									
1919	..	5-6	5.2	61	51	83	47.1	..	2.1
1920	252	6-7	6.7	72	66	91	53.6	.	2.0
1921	131	5-7	6.1	48	49	102	49.1	49.1	12.9
1922	187	3-5	3.7	39	36	94	42.2	41.5	14.3
1923	183	3-4	3.5	39	35	89	39.7	38.2	11.7
1924	81	4	4.0	41	37	90	39.4	37.9	10.3
1925	52	4-5	4.6	41	36	88	39.6	37.6	11.3
1926	-10	5	5.0	37	34	90	39.3	37.8	12.5
1927	88	4.5-5	4.6	36	32	89	38.3	36.3	9.7
1928	128	4.5	4.5	36	32	88	38.2	35.9	10.8
1929	109	5-6.5	5.5	35	31	88	37.9	35.8	10.4
1930	32	3-4.5	3.4	31	30	96	36.9	35.9	16.0
1931	-100	2.5-6	4.0	25	27	107	35.3	35.7	21.3
1932	-47	2-5	3.0	23	25	108	34.4	34.4	22.1
1933	6	2	2.0	22	25	111	33.8	34.3	19.9
1934	-1	2	2.0	23	25	108	33.7	33.2	16.7
1935	38	2	2.0	24	25	106	34.0	33.7	15.5
1936	-12	2	2.0	25	26	103	34.2	33.7	13.1
1937	-50	2	2.0	29	28	97	35.4	34.5	10.8
1938	-46	2	2.0	27	28	106	36.1	35.5	13.5

1) Surplus of exports of goods and services and income from abroad over imports of goods and services and income paid abroad at current prices.

2) Unemployment statistics after 1921 are not directly comparable with those of earlier years.

Source: Business Cycles in Britain by F.W. Paish (Lloyds Bank Review, October 1970)

Table II

MEASURES OF THE SEVERITY OF THE GREAT DEPRESSION AND OF THE EXTENT OF RECOVERY BY 1937

	1929 High	1932-1933 Low	1937 High
Annual data			
In 1939 prices, billions of dollars(1)			
GNP	85.9	61.5	87.9
Gross domestic investment	14.9	1.1	11.4
In current prices, billions of dollars(1)			
GNP	103.8	55.8	90.2
Gross domestic investment	15.8	0.9	11.4
Disposable income	82.5	45.2	71.1
Consumer expenditures	78.8	46.3	67.1
Total new construction	10.8	2.9	7.0
Outside bank debits(2)	645	266	441
Outside demand deposits	18.3	11.3	19.3
Loans, all commercial banks	35.7	14.9(3)	17.4
Unemployment (million persons)	1.6	12.8	7.7
Monthly data			
Industrial production (1935-1939 = 100)			
Total index	110	58	113
Durable manufactures	132	41	122
Non-durable manufactures	93	70	106
Wholesale commodity prices (1926 = 100)			
All commodities	95.3	64.8	86.3
Farm products	104.9	48.2	86.4
Stock prices (1935-1939 = 100)	238	36	137

1) Data for the GNP and its components in both constant and current prices are the estimates of the Department of Commerce. These figures have been slightly revised since this table was originally prepared.

2) For demand deposits. Debits to time deposits are excluded.

3) Figure for 30th June, 1935, when low for this series was reached.

Source: Business Fluctuations by R.A. Gordon (Harper & Row, New York 1964)

financial measures, budget deficits and the New Deal is, however, not appropriately discussed in this particular study.

This short description of pre-war cycles highlights a number of trade-cycle features. Firstly, a range of different factors can be responsible for setting off the upswings and downswings of cycles; secondly, like any of these other factors, governments can influence the course of the trade-cycle; thirdly, once the upswing or downswing has begun certain processes were set in action usually culminating in a fall-off or an increase in consumer expenditure.

An analysis of the post 1945 trade cycles of the United Kingdom and the United States highlights a number of very significant changes in the trade cycle compared with pre-war. These changes are of particular importance to the subject matter of this study, for, as already mentioned, the post war period witnessed sustained attempts on the part of governments to control the trade cycle and moderate the effects of booms and depressions.

Table III below gives the key indicators for the United Kingdom economy for the post war period up to the end of the 1960s.

The salient features of the Table are as follows: firstly, the cycles are shorter and less severe than pre-war and are composed mainly of variations in rates of growth rather than fall-offs and subsequent increases in actual levels of output. Secondly from 1966 to the end of the decade the cycle became so short as to be measurable in months rather than years. Thirdly, there has been a major change in the lead and lag indicators in comparison to the pre-war period. Personal consumption fluctuations no longer follow as secondary effects of fluctuations in exports but have become the leaders of the cycle. The lengthy lag of private sector investment behind personal consumption is particularly noticeable. Fourthly, balance of trade deficits appear at the bottoms of depressions and not as pre-war at the peaks of booms. It is no longer a decline in exports but an increase in imports which occasions the deficits.

As will be argued later, this change came about as a result of Government economic management and, as is also argued later, it has very important repercussions for the transport industry.

In Table IV changes in the rates of growth for certain key indicators for the period 1970-76 are given. It can be seen from the changes in gross domestic product that a cyclical nature of production returned at the beginning of this decade. The pattern of the cycle is extremely interesting with a build up to an all time peak in 1973 (a peak both in absolute terms and in terms of relative rates of growth) followed by a very sharp downswing which two years later reached an unprecedented rate of decline for the post war period. The role of the post-war lead indicator, personal

Table IIIa

CHANGES IN OUTPUT AND EXPENDITURE AT CONSTANT MARKET PRICES
(as percentages of previous year's gross domestic product)

	Measured from output side	Measured from expenditure side									
	Gross domestic product	Gross domestic product	Personal consumption	Public authorities' current expenditure	Gross fixed investment		Stock accumulation		Trade in goods and services		
					Public	Private	Public	Private	Exports	Imports	Balance
1947	+1.1	+0.6	+2.6	-7.8	+2.4		+4.0		+0.9	+1.4	-0.5
1948	+4.5	+3.1	-0.5	-0.1	+1.2		-1.7		+4.0	-0.3	+4.2
1949	+3.5	+3.0	+1.3	+1.1	+0.7	+0.3	+0.5	-1.3	+1.7	+1.3	+0.4
1950	+3.7	+2.9	+1.9	-	+0.4	+0.3	-1.5	-0.5	+2.5	+0.2	+2.3
1951	+2.2	+3.8	-0.9	+1.5	+0.5	-0.5	+2.0	+2.6	-0.2	+1.2	-1.4
First Cycle											
1952	-0.7	-0.2	-0.4	+2.0	+0.5	-0.5	+0.4	-3.2	-0.4	-1.4	+1.0
1953	+4.1	+4.6	+2.9	+0.6	+0.8	+0.5	-0.7	+1.0	+0.7	+1.3	-0.6
1954	+4.2	+3.6	+2.6	-0.1	-0.1	+1.2	-1.0	+0.6	+1.0	+0.6	+0.4
1955	+3.4	+3.3	+2.6	-0.6	-0.4	+1.1	+0.4	+0.8	+1.1	+1.7	-0.6
1956	+1.0	+1.5	+0.6	-0.2	+0.1	+0.5	+0.4	-0.7	+0.8	-	+0.8
1957	+1.8	+1.9	+1.4	-0.3	+0.2	+0.6	+0.1	-0.1	+0.5	+0.5	-
Second Cycle											
1958	-0.1	+0.1	+1.7	-0.5	-0.1	+0.2	-	-0.7	-0.3	+0.2	-0.5
1959	+4.5	+4.0	+2.9	+0.4	+0.5	+0.6	-0.1	+0.4	+0.5	+1.2	-0.7
1960	+5.4	+4.9	+2.5	+0.4	+0.2	+1.3	-0.2	+1.9	+1.1	+2.3	-1.2
1961	+1.8	+3.3	+1.5	+0.6	+0.5	+1.0	+0.2	-1.2	+0.6	-0.1	+0.7
Third Cycle											
1962	+1.4	+0.9	+1.4	+0.5	+0.3	-0.3	-	-0.9	+0.3	+0.4	-0.1
1963	+3.3	+4.1	+3.0	+0.3	+0.4	-0.1	-0.1	+0.6	+0.8	+0.7	+0.1
1964	+6.0	+5.5	+2.3	+0.3	+1.1	+1.5	+0.1	+1.3	+0.7	+1.8	-1.1
1965	+2.6	+2.3	+1.1	+0.5	+0.3	+0.4	-	-0.8	+0.9	+0.1	+0.8
1966	+1.7	+2.1	+1.4	+0.4	+0.6	-0.1	+0.1	-0.6	+0.7	+0.5	+0.3
Cycle in Abeyance											
1967	+1.6	+2.0	+1.3	+0.9	+1.1	+0.1	+0.1	-0.3	-	+1.2	-1.2
1968	+3.8	+3.2	+1.4	+0.1	+0.1	+0.8	-0.2	+0.2	+2.3	+1.5	+0.8
1969	+2.0	+1.2	+0.2	-0.2	-0.6	-	+0.4		+1.7	+0.5	+1.3

Source: Business Cycles in Britain by F.W. Paish (Lloyds Bank Review, October 1970)

Table IIIb

BANK RATE, PRICES AND UNEMPLOYMENT

	Balance of payments on current account £m	Bank Rate		Prices (percentage change on year)					Unemployment percentage in United Kingdom
		Range %	Average %	Trade in goods and services			Consumer goods and services	Gross domestic product at factor cost	
				Imports	Exports	Terms of trade			
1949	+153	2	2.0	+2.7	+2.4	-0.3	+2.3	+3.0	1.6
1950	+447	2	2.0	+13.1	+5.1	-7.0	+2.7	+1.0	1.5
1951	-326	2-2.5	2.1	+31.5	+23.1	-6.4	+9.4	+7.0	1.2
First Cycle									
1952	+163	2.5-4	3.7	-1.9	+5.2	+7.2	+5.9	+9.1	2.1
1953	+145	3.5-4	3.9	-9.6	-5.8	+4.1	+2.0	+3.0	1.8
1954	+117	3-3.5	3.2	-0.4	-1.6	-1.2	+2.0	+2.2	1.5
1955	-155	3-4.5	4.1	+2.8	+2.6	-0.2	+3.6	+3.8	1.2
1956	+208	4.5-5.5	5.4	+1.3	+5.4	+4.0	+4.6	+6.4	1.3
1957	+233	5-7	5.4	+2.3	+2.5	+0.2	+3.3	+4.1	1.6
Second Cycle									
1958	+344	4-7	5.4	-5.1	-1.0	+4.3	+2.7	+5.1	2.2
1959	+143	4	4.0	-	+0.3	+0.3	+1.0	+1.7	2.3
1960	-265	4-6	5.3	+1.3	+0.5	-0.8	+1.1	+1.8	1.7
1961	-4	5-7	5.7	+0.2	+1.3	+1.1	+2.9	+3.3	1.6
Third Cycle									
1962	+112	4.5-6	4.9	-0.3	+0.8	+1.1	+3.9	+3.4	2.1
1963	+114	4-4.5	4.0	+2.3	+1.3	-1.0	+1.8	+2.1	2.6
1964	-393	4-7	5.1	+3.2	+1.3	-1.8	+3.2	+2.6	1.7
1965	-81	6-7	6.4	+1.3	+2.1	+0.7	+4.6	+4.0	1.5
1966	+40	6-7	6.5	+1.3	+3.0	+1.7	+3.8	+3.5	1.6
Cycle in Abeyance									
1967	-322	5.5-8	6.2	+0.9	+2.2	+1.3	+2.8	+3.8	2.5
1968	-309	7-8	7.5	+11.4	+8.4	-2.7	+4.5	+2.7	2.5
1969	+366	7-8	7.8	+2.7	+2.7	-	+5.2	+3.5	2.5

Source: Business Cycles in Britain by F.W. Paish (Lloyds Bank Review, October 1970)

expenditure, is very apparent in the build up to the 1973 peak, but 1974 saw a decline in production over the previous year which would not have been indicated by the relatively small reduction in the rate of personal expenditure experienced the previous year. Two factors explain this: firstly, the industrial disputes which led to a three day working week in the first quarter of 1974 and secondly, the impact of the quadrupling of the price of imported oil following the Middle East War at the end of 1973.

The effects of the oil price rise were devastating on the United Kingdom economy. In 1973 fuel imports accounted for 11 per cent of total imports in the Trade Balance, by 1974 the proportion was 20 per cent. The increase in the imported value of fuel between 1973 and 1974 amounted to £2,902 million - slightly more than the increase in the trade deficit during that period.

The lead/lag relationship between personal expenditure and capital investment followed the established post war pattern in both the upswing and the downswing.

The essential points that it was desired to make about differences in the lead and lag indicators in the United Kingdom, the role of the foreign sector and the range and results of external shocks to the economy have already been made, and little point would be served in analysing in any detail the post 1945 trade cycle in the United States. In contrast to the United Kingdom investment has remained the main determinant of the trade cycle as in the post-war period. The cycle itself has, as in the United Kingdom, been predominantly milder and the substantial public and private sector investment opportunities have been sufficient to support a rising trend in aggregate demand and capable of leading the economy out of a downswing.

Before going on to discuss the instruments available to governments for counter-cyclical policy purposes, and the aims and success of such policies, it is advantageous to consider the relationship of the transport cycle to the overall trade cycle and this is the subject matter of the following section.

The Trade Cycle and the Transport Cycle

Continuous economic growth was the feature of the economies of Western industrial countries in the post Second World War period up to 1973; economic management centred around changes in the rate of growth rather than changes in absolute levels of production. The essence of such management is the prediction of the peaks of upswings and the bottoms of downswings, for it is at these points that counter-cyclical measures are intended to be most effective.

Table IV

CHANGES IN OUTPUT AND EXPENDITURE AT CONSTANT PRICES IN THE UNITED KINGDOM 1970-76

(as percentage of previous year's figures for all indicators except Retail Prices)

	G.D.P.	Personal expenditure	Fixed capital expenditure	Stocks	Annual % increase in retail prices
1970		+2.8			
1971	+2.5	+3.1	+2.4	+0.5	9.4
1972	+2.6	+5.8	+1.2	+0.2	7.1
1973	+5.9	+4.4	+4.6	+7.7	9.2
1974	+0.3	-1.9	+0.3	+3.2	16.0
1975	-1.3	-2.9	-2.2	-3.9	24.2
1976	+2.7	+0.4	-3.4	-0.4	16.5

Source: Based on figures from the Business Statistical Office's Trade and Industry Reports, and the Eurostat Year Book 1976 of National Accounts ESA.

In Tables V to VIII changes in the trade cycle and changes in the transport cycle are compared for the United Kingdom and the Federal Republic of Germany. These two countries have been selected for comparative purpose on two grounds, both of which relate to freight transport. Firstly, there has been much more extensive intervention in the freight transport industry in the Federal Republic since the end of the Second World War than in the United Kingdom; and secondly, the relative importance of the different modes varies substantially between the two countries, with rail, for example, being almost twice as important in Germany compared with the United Kingdom in relation to road transport for hire or reward in tonnage terms (this second factor is, of course, not independent of the first).

It will be noted that transport has been measured in the conventional terms of passenger/kms and tonnages, and that the trade cycle is measured in terms of changes in gross domestic product. The use of these measures might be queried on the basis that they have previously been the subject of severe criticism. It has been argued that gross domestic product cannot be used directly as a means of transport forecasting(1), and that passenger/kms and

1) Methodische Probleme von Verkehrsprognosen by B.T. Bayliss (Vandenhoeck and Ruprecht, Göttingen 1970).

tonnages are very misleading measures of transport output.(1) These measurements are, however, not being used entirely to these ends in the present context. It is in relation to changes in gross domestic product (but not this alone) that counter-cyclical policy is triggered, and this is, therefore, the comparison that must be made in this instance. However, although gross domestic product has not been used as an indicator for obtaining transport output measures in the United Kingdom it is not known if this is the case in other countries. The problem of physical measures of transport output is that of aggregation over traffics modes and time. As in this instance it is a question of comparing pairs of closely related time periods the aggregation over time is not too much of a problem; there is also no aggregation here of different modes. Aggregation within a mode remains, of course, a problem, with such aggregation possibly concealing important differences between different areas of operation within a mode. Nevertheless it is felt that the figures are adequate for illustrating the points made in the next section of this study.

In comparing the trade and transport cycles it is important to observe the direction of the change and particularly at the peaks and troughs of cycles when the effects of counter-cyclical policy are intended to be strongest.

In relation to passenger transport in the United Kingdom (see Table V) it can be seen that for passenger transport as a whole changes in rates of growth are generally in the same direction as for gross domestic product. However, when one considers the individual modes it will be observed that for rail and public road transport the direction of change is usually out of phase with the trade cycle, the direction of change in private road transport is, except for two instances, in accord with the changes in gross domestic product. The second of these two instances, 1975, is extremely interesting. It appears from the figures for the three modes that the huge increase in fuel prices in 1974 resulted in a switch from private to public transport, with the consequence that both rail and public road transport moved in the opposite direction from the trade cycle. The following year car usage again increased substantially. This suggests that demand for transport as a whole is inelastic, but that it can be elastic between modes in the short run but not in the long run.(2)

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1) The Theory and Application of Index Numbers in the Transport Sector by B.T. Bayliss (UNECE, Geneva 1970) and Demand for Freight Transport by B.T. Bayliss (OECD, Paris 1973).

2) See Raw Material Resources & Transport by B.T. Bayliss in Proceedings of the Sixth Symposium of the European Conference of Ministers of Transport on Theory & Practice in Transport Economics (Madrid 1975) for a survey of studies on fuel costs and demand elasticities in passenger transport.

Table V

RATES OF CHANGE IN G.D.P. AT CONSTANT PRICES AND PASSENGER TRAFFICS IN THE UNITED KINGDOM 1965-75

(as percentage of previous year's figures)

	G.D.P.	Total (p/kms)	Rail (p/kms)	Public road (p/kms)	Private road (p/kms)
1966	+1.9	+4.5	-0.9	-1.6	+6.9
1967	+2.6	+4.7	-1.7	-1.6	+7.2
1968	+3.5	+2.9	-1.8	-3.3	+4.9
1969	+1.2	+2.1	+3.9	-1.6	+2.9
1970	+2.3	+4.4	+2.6	-3.4	+6.3
1971	+2.5	+5.2	-0.6	±0	+6.7
1972	+2.6	+3.4	-2.5	-1.8	+4.9
1973	+5.9	+3.9	+1.7	-1.8	+5.0
1974	+0.3	-2.0	+2.8	±0	-2.8
1975	-1.3	+1.3	-2.8	±0	+2.0

Source: Based on Department of the Environment Statistics and the Eurostat Year Book 1976 of National Accounts ESA

Table VI

RATES OF CHANGE IN G.D.P. AT CONSTANT PRICES AND FREIGHT TRAFFICS IN THE UNITED KINGDOM 1965-75

(as percentage of previous year's figures)

	G.D.P.	Total (t)	Total road (t)	Rail (t)	Coastal shipping (t)	Road (hire or reward) (t)	Road (on own account) (t)
1966	+1.9	+2.6	+3.2	-6.5	-1.8	+5.1	+1.8
1967	+2.6	-0.3	+0.6	-6.0	-5.7	+2.9	-1.2
1968	+3.5	+3.5	+3.4	+3.4	-2.0	+6.1	+1.2
1969	+1.2	-1.5	-2.9	±0	±0	-1.0	-4.5
1970	+2.3	-2.5	-2.9	-0.9	±0	-0.8	-6.7
1971	+2.5	-1.7	-1.7	-5.3	-4.1	+0.3	-3.7
1972	+2.6	+1.3	+3.0	-10.1	+2.1	+5.9	+0.1
1973	+5.9	+3.2	+2.6	+11.8	-4.2	+9.4	-4.2
1974	+0.3	-9.0	-8.1	-10.5	-4.3	-7.5	-8.8
1975	-1.3	+2.1	+4.2	-1.1	-13.6	+3.4	+5.2

Source: Based on Department of the Environment Statistics and the Eurostat Year Book 1976 of National Accounts ESA

Table VII

RATES OF CHANGE IN G.D.P. AT CONSTANT PRICES AND PASSENGER TRAFFICS IN GERMANY 1965-75

(as percentage of previous year's figures)

	G.D.P.	Total (p/kms)	Rail (p/kms)	Public road (p/kms)	Private road (p/kms)
1965	+5.5	+8.8	+3.1	+3.8	+10.7
1966	+2.6	+7.9	-7.6	+1.4	+11.5
1967	-0.3	+3.2	-7.1	+0.4	+4.9
1968	+6.6	+3.7	+5.2	+1.3	+4.1
1969	+7.8	+8.5	+6.3	+5.3	+9.2
1970	+5.9	+8.0	+2.4	+5.0	+5.2
1971	+3.1	+6.1	+0.8	+3.6	+6.8
1972	+3.5	+3.3	+3.1	+3.0	+3.2
1973	+4.8	+3.4	+0.5	+3.3	+3.8
1974	+0.5	-0.4	+2.0	+2.5	-1.1
1975	-2.3	+6.5	-7.1	+2.6	+8.4

Source: Based on figures from: National Accounts ESA, Eurostat Year Book 1976 and Verkehr in Zahlen 1977, DIW Berlin.

In the case of passenger transport in the Federal Republic of Germany (see Table VII) it can be seen that the directions of change in public transport are more or less in line with trade cycle changes. The identity of movement is not quite so good for car transport. In this latter case it is again extremely interesting to note, as in the United Kingdom, that in 1974 car traffic appears to have moved to rail as a result of the fuel crisis, but in the following year there was a substantial increase in car travel.

For freight transport in the United Kingdom it is only in the case of road haulage for hire or reward where the direction of change is, as a rule, the same as for gross domestic product. In Germany by contrast the direction of change for rail freight is the same in every year as that for gross domestic product, and the relationship is also very similar for inland shipping and long and short-distance road haulage for hire or reward.

The relationship between hire or reward and own account road goods transport which is similar in both countries, i.e. hire or reward changes are in the same direction as changes in the trade cycle whilst this does not apply generally to road goods transport on own account, is of particular interest. It seems to imply that in a downswing firms move traffic from hire or reward carriers to

Table VIII

RATES OF CHANGE IN G.D.P. AT CONSTANT PRICES AND FREIGHT TRAFFICS IN GERMANY 1965-75

(as percentage of previous year's figures)

	G.D.P.	Total (t)	Rail (t)	Inland Shipping (t)	Long distance Road (t)		Short distance Road (t)	
					Hire or reward	On own account	Hire or reward	On own account
1965	+5.5	+2.6	-4.1	+6,5	+4.3	+11.1	+3.0	+2.5
1966	+2.6	+4.0	-1.4	+6.2	+0.1	+7.9	+3.2	+5.8
1967	-0.3	+1.1	-1.8	+3.1	-4.2	+5.4	-1.5	+3.3
1968	+6.6	+8.0	+9.8	+8.8	+9.8	+14.9	+4.3	+8.6
1969	+7.8	+7.2	+10.8	+0.2	+7.9	-8.3	+5.0	+9.4
1970	+5.9	+6.4	+3.0	+2.6	+4.3	+0.5	+4.6	+8.9
1971	+3.1	+0.5	-7.7	-4.2	+2.7	+9.0	+2.1	+2.7
1972	+3.5	+2.9	+1.3	-0.6	+4.4	+18.3	+3.2	+2.8
1973	+4.8	+4.9	+5.2	+7.6	+7.7	+19.2	+3.1	-3.5
1974	+0.5	-3.9	+4.8	+1.7	-3.2	+10.1	-7.8	-7.2
1975	-2.3	-8.7	-19.2	-9.8	-4.0	+13.8	-7.8	-6.6

Source: Based on figures prepared by the Deutsches Institut für Wirtschaftsforschung, Berlin, for Verkehr in Zahlen, and the Eurostat Year Book 1976 of National Accounts ESA

their own vehicles(1) whilst on the upswing firms send their increased traffic by hire or reward operators. In other words firms attempt to keep the traffic sent by their own vehicles as constant as possible, i.e. they behave in a counter-cyclical manner in relation to the use of their own fleets.

The differences in the rail/gross domestic product cycles in the United Kingdom and the Federal Republic is probably explained by the lower importance of rail in the freight transport market in the United Kingdom compared with the Federal Republic of Germany and its reliance on a few specialised traffics.

Attention has already been drawn to certain inadequacies, mainly relating to aggregation, of the figures used in this section. Additionally, much care must be taken in their interpretation on account of errors in measurement. This applies not only to estimates of road freight traffic, which may be based on infrequent surveys and the use of indicators in intervening years, but also to such a fundamental measure as gross domestic product. The three different measures of gross domestic product do on occasions indicate differences in the direction of change of the trade cycle where the changes are small.

Nevertheless, there does appear to be some indication that direction of change in various modes does not correspond with the trade cycle. There is some evidence that modes can be out of phase with the trade cycle on account of such factors as: an inelastic demand for transport as a whole but not between modes; the small shares that some modes have of the total transport market; the stabilization of the use of a particular mode through the movement of traffic between it and other modes at the time of peaks and depressions in demand.

The Aims and Instruments of Counter-Cyclical Policy

The aim of counter-cyclical policy is to flatten out the peaks and depressions of the trade cycle. Very basically the aim is to prevent both excess demand for, and underutilisation of, existing capacity in the short term. It is important to note that counter-cyclical policy is a short or medium-term policy and is not aimed at bringing about structural changes in the economy. In the classical economic case increased demand for capital, manpower and materials on the upswing of cycles leads to increased prices due to a fixed supply in the short run; conversely on the downswing reduced demand leads to a fall in prices, and unemployment.

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1) It is very much the exception for firms to use only one mode of transport. See Industrial Demand for Transport by B.T. Bayliss and S.L. Edwards (H.M.S.O., London 1970) and Transport for Industry by B.T. Bayliss and S.L. Edwards (H.M.S.O., London 1968).

The remedy would appear simple enough; namely, to stimulate demand through the injection of income into the economy during depressions and to reduce spending power (income) in the economy during booms. Unfortunately there are two basic problems related to this: firstly, in the post 1945 period economies have not behaved in the classical manner; and secondly, there are substantial problems in relation to the use of some counter-cyclical instruments.

During the post-war period up to 1973, in contrast to the pre-First World War and Inter-War periods, there was a price "ratchet effect" - during booms prices rose but during depressions remained constant. Also in the United Kingdom because of the dominance of imports as opposed to exports in the trade cycle, balance of payments deficits have been worst at the tops and not (as in pre-war days) at the bottoms of cycles. The 1974 depression brought an even further change. Here at the bottom of the cycle besides high levels of unemployment and balance of payment deficits, inflation reached record levels.

It is, therefore, readily apparent that the way out of the 1974 depression was not simply a matter of stimulating demand. To have stimulated demand would have exacerbated both the inflation and balance of payments situations. Counter-cyclical policy must, therefore, be seen as part of an overall stabilization policy. The remedy for unemployment is to stimulate demand, the remedy for inflation is to cut back on demand; clearly the execution of such policies must be carefully phased.

Before commenting on the nature of counter-cyclical instruments and the difficulties encountered in their use it would be valuable to consider some specific changes in the nature of economies which have acted as stabilizing influences in the post war period.

Government expenditure on investment is much higher than it was before the war (the total public sector share of gross fixed capital formation is currently 43 per cent in the United Kingdom). Thus if this expenditure is maintained changes in private investment (the classic lead factor in the trade cycle) represent a smaller fraction of gross domestic product than previously and are, therefore, less destabilizing.

White collar jobs have also become increasingly more important particularly in relation to the massive expansion of the service industries and employment in the Government service. There is much less fluctuation in these types of employment than in, for example, the construction and manufacturing sectors and this has helped to stabilize the level of income in the economy. Likewise the tendency for wages generally not to fall during depressions in economic activity during the post-war period has helped to stabilize demand.

The increased importance of house building resulting from an increased and sustained demand for housing has also had an important stabilizing influence. It has declined in the later stages of business expansion thereby moderating booms, and has also expanded early during downturns, thereby moderating the effects of depressions. The possible existence of a relationship between the building cycle and the transport cycle is a subject worthy of further investigation.

Of great importance in the post-war period has been the increasing role of automatic stabilization in the cyclical process. Fiscal measures which have an automatic effect upon the budget are referred to as automatic stabilizers. Thus a rise in gross domestic product means a rise in incomes and sales; this means that proportionately more will be paid in taxes, such as incomes profits and sales taxes, and less will be paid out by the Government in unemployment payments and social benefits. The effect of this is to increase net government income thereby cutting back demand in the economy. Conversely in a depression, incomes and sales will fall, proportionately less will be paid in taxation and greater unemployment and social security payments will have to be made. The importance of these automatic stabilizers has grown on two grounds. Firstly, by virtue of the much increased range and magnitude of fiscal measures in the post-war period as opposed to the pre-war period, and secondly, Governments have become more dependent upon them during the 1970s on account of the absence of "reaction lags" to other fiscal measures. Thus, for example, increases in value added tax could be counted on during the 1960s as a means of reducing the income in the economy. There was a considerable lag between the increased tax being implemented and demands for increased wages to offset losses in real income. In the 1970s, with its increasing inflation rates, not only was immediate compensation demanded but future levels of inflation were also anticipated in the wage demands. By keeping income tax brackets constant real increases in income were proportionately less than money increases and a lag was thereby reintroduced into the system.

The second broad group of problems mentioned in relation to the "simple remedy" for stabilizing trade cycles related to problems in the mechanics of using certain counter-cyclical instruments.

Counter-cyclical instruments can be divided into two broad groups: monetary instruments and fiscal instruments. In the 1920s monetary policy was considered to be the primary stabilization measure; with the depression of the 1930s and the advent of Keynesian economics the whole emphasis turned to fiscal instruments; and since the Second World War governments have relied upon a combination of these two methods.

Monetary instruments are basically the minimum lending rate of the central bank, open market operations, special deposits and reserve requirements, and control of credit. As this policy aims at controlling liquidity and the availability of funds its main effect is upon the demand of private individuals and the demands of industry for investment funds and working capital.

Fiscal policy relates to taxation and public expenditure. It is no longer concerned solely with balancing the budget but with injecting or withdrawing income from the system in order to stabilize demand.

Because of the lags between the implementation of fiscal and monetary measures and their taking effect, a high degree of forecasting accuracy is required in relation to changes in the cycle so as to determine the exact moment to act. As long ago as the early 1950s Friedman(1) argued that the absence of such forecasting skills warned against any attempts at stabilization policy. Even earlier Friedman had argued(2) that lags ruled out the use of fiscal policy as a counter-cyclical weapon. He subdivided the total lag into three parts and these definitions have now become standard in the literature: the recognition lag relates to the delay in recognising a recession or a boom; the decision lag relates to the delay in the acting on account of legislative problems; and the expenditure lag relates to the period between action and the full impact of successive multiplier rounds taking place.

These views have been challenged and it has been argued that forecasting problems do not invalidate attempts at stabilization policy(3) and that the lags can be satisfactorily reduced in relation to fiscal policy.(4) In the next Chapter, therefore, a review of the effectiveness of stabilization policy is made.

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1) Essays in Positive Economics by M. Friedman (University of Chicago Press, Chicago 1953)

2) A Monetary and Fiscal Framework for Economic Stability, by M. Friedman in The American Economic Review, Vol. 38, June 1948

3) See for example Economic Forecasting and Contracyclical Stabilisation Policy by H.O. Stekler in Journal of Public Economics (5) 1976

4) See for example Fiscal Policy for a Balanced Economy (OECD Paris 1968)

Chapter II

COUNTER-CYCLICAL POLICY

The success of counter-cyclical policy since 1945

Pre-war economic management policy was of a structural rather than of a counter-cyclical nature with the "public works" policies aimed at combatting structural unemployment. In the post-war period with emphasis on counter-cyclical policy, personal consumption in contrast to public investment was considered, on account of its importance in gross domestic product, to be the sector which would yield the speediest results for the whole economy if "managed". It was the "management" of personal consumption after 1945 which resulted in it becoming the instigator of cycles in the United Kingdom rather than a secondary effect of changes in investment as in the pre-war period.

The two basic policies used in stabilization management have been monetary and fiscal policies. The relative importance of these two policies since 1965 in the OECD countries is shown in Graph I below.

In general, stabilization policies have only been selective in relation to broad categories of demand, e.g. business investment, house building, consumption. Although during a recession there is the obvious temptation to aid particular sectors or industries where cyclical unemployment is particularly high, such a policy renders a Government liable to pressure group action.

The fact that policy is only broadly selective means that it is aimed at an average situation. In many instances the incentive for action is a change in gross domestic product, which is, of course, the most highly aggregated average change possible. Because stabilization policy is aimed at an average situation it can be too strong or too weak for particular sectors or, if a sector is moving in an opposite direction from the trade cycle, of the contrary form to the one required.

It is pertinent to reflect in this connection on the relationship between the overall trade cycle and the transport cycle. In Chapter I it was shown that in the case of some modes the direction of change was contrary to the direction of changes in the trade cycle.

However, although certain sectors may be out of phase with the main cycle this can be a positive advantage when in the case of a country like the United Kingdom the counter-cyclical policy turns out to be pro-cyclical. Graph II below shows the perverse relationship between unused capacity and public expenditure on goods and services in the United Kingdom, the correlation coefficient between the two series being -0.6.

Two OECD studies(1) at the end of the 1960s were aimed at assessing the impact of fiscal policy as a whole on the economies of the OECD countries. One of the joint authors of these studies carried out further analysis(2) of the data and the results are presented in Table IX below.

The Table differentiates between discretionary and automatic effects. The discretionary effects being those resulting from specific changes in fiscal measures, and the automatic effects being those resulting from the operation of the automatic stabilizers.

Again it can be seen that the discretionary management of the economy in the United Kingdom has been pro- rather than counter-cyclical whilst the automatic budget effects have been of a rather random nature. It should, however, not be concluded from this that the aim of stabilization is necessarily unrealistic. Party politics and balance of payments considerations played an important role in this result.

By contrast in Sweden, which has the longest experience of counter-cyclical fiscal policy and which was the only other OECD country up to the mid 1960s to have consistently carried out stabilization policies, stabilization policy has been relatively successful.

Other countries only made occasional use of fiscal policy as a stabilization instrument up to 1965, sometimes with success and sometimes, as in the United Kingdom, with pro-cyclical results. It

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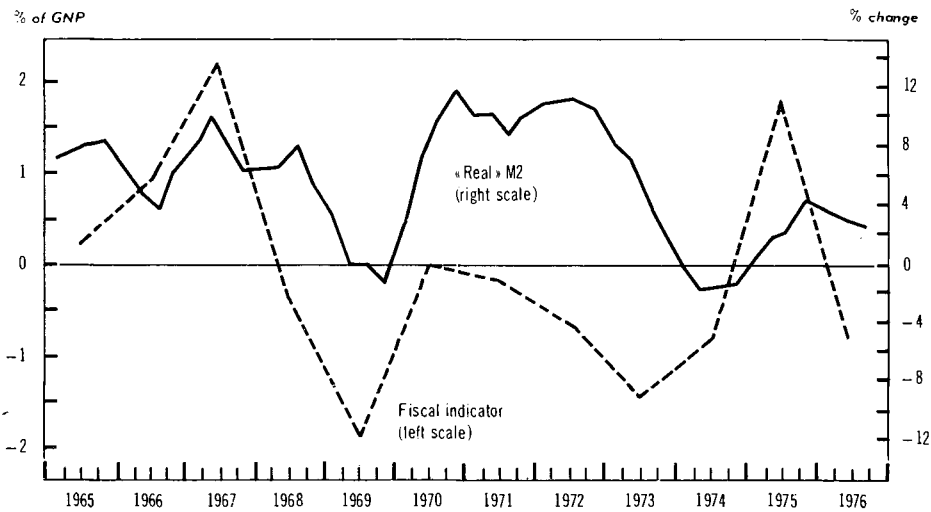
1) Fiscal Policy for a Balanced Economy (OECD Paris, 1968) and Fiscal Policy in Seven Countries 1955-65 by B. Hansen (OECD Paris, 1969).

2) Fiscal Policy as a Tool of Economic Stabilisation - Comments to an OECD Report by A. Lindbeck in Kyklos, 1970 23(1).

appears, however, that forecasting errors, although occurring on occasions, have not been a major reason for lack of success or less success than might have been expected. The basic obstacles have related to the Friedman decision lag and the multiplicity of goals of stabilization policy in the post-war period to which reference has already been made.

Graph I

THE MIX OF MONETARY AND FISCAL POLICIES IN THE OECD AREA



Note : These two indicators are designed to show the overall thrust of monetary and fiscal policy in the OECD area (nine countries). The monetary indicator shows the rate of growth of the broadly defined money stock deflated by the consumer price index (seasonally adjusted quarterly changes at annual rates, smoothed by a three-quarter moving average). The fiscal indicator is an estimate of the impact on GNP of the overall balance between public revenue and public expenditure calculated as described in the Annex to the full Report.

Source : Towards Full Employment and Price Stability (OECD Paris, 1977).

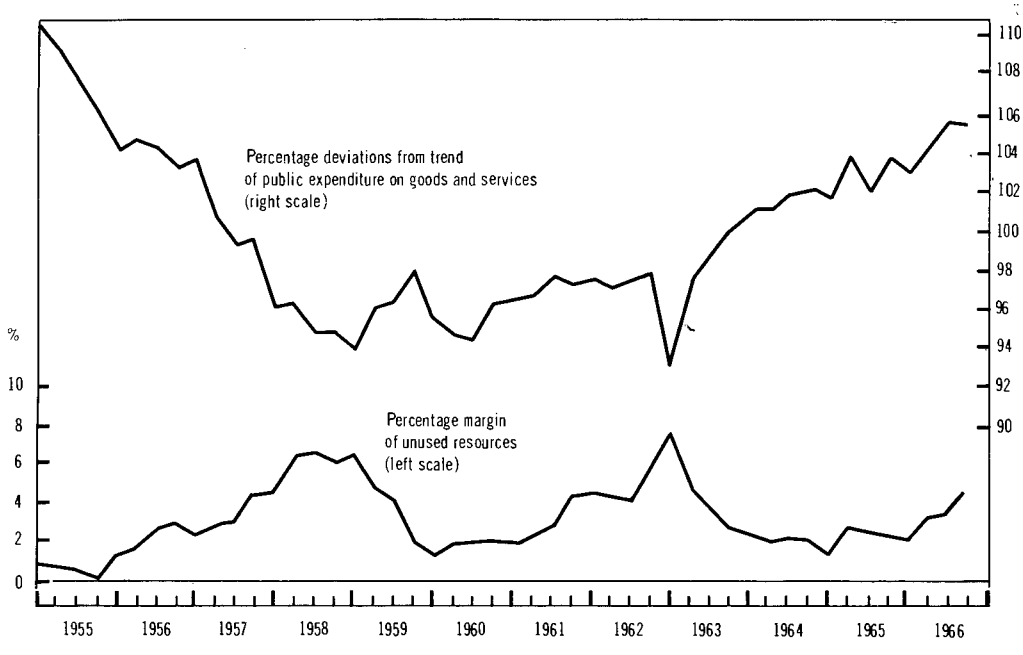
Since the appearance of these two OECD reports the Western industrialised world has experienced a boom of unprecedented proportions peaking in 1973, followed by a depression also unprecedented since 1945. Although the external sector played an important role in setting-off the downswing, errors of stabilization policy are also very apparent.

The excessive monetary expansion in the OECD countries in 1971-72, for example, resulted in part from the breakdown of the

adjustable-peg system of exchange rates, but there was also a distinct failure to appreciate the meaning of movements in nominal interest rates and the length of the lag between the introduction of monetary measures and their full impact on the economy. Again in relation to fiscal policy there were problems of unexpectedly long lags, but here there was also a failure to reconcile short-term flexibility with control of the balance between the growth of public and private expenditure in the medium term.

Graph II

PUBLIC EXPENDITURE AND THE MARGIN OF UNUSED RESOURCES, UNITED KINGDOM 1955-1966



Source : Public Sector Economics by A.R. Prest (Manchester University Press, 1968).

Table IX

"DIRECT" EFFECTS OF FISCAL POLICY; PER CENT OF GNP

	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	average
United Kingdom	← boom →			← recession →		← boom →		← recession →		← boom →		
Public sector:	← inflation →					← inflation →						
Descretionary and automatic	-1.1	-0.2	0.1	-0.6	0.5	0.2	0.4	0.0	0.9	0.4	-0.5	0.0
Central government(1):												
Descretionary and automatic	-1.1	-0.3	0.0	-0.7	0.2	0.0	-0.2	-0.6	0.4	-0.3	-0.8	-0.3
Descretionary	-0.7	-0.1	0.4	-0.1	1.2	0.4	0.1	-0.4	0.8	0.6	-0.6	0.2
Automatic	-0.4	-0.2	-0.4	-0.6	-1.0	-0.4	-0.3	-0.2	-0.4	-0.9	-0.2	-0.5
Sweden	← boom →			← recession →		← boom →		← tendency to → recession		← boom →		
Public sector:										← inflation →		
Descretionary and automatic	-0.2	0.8	0.8	0.8	1.5	-1.6	-0.7	0.9	1.1	0.9	0.3	0.4
Descretionary	0.8	0.9	1.0	0.9	2.4	-1.5	0.8	2.3	2.3	2.0	1.2	1.2
Automatic	-1.0	-0.1	-0.2	-0.1	-0.9	-0.1	-1.5	-1.4	-1.2	-1.1	-0.9	-0.8
Central government(1):												
Descretionary	0.2	0.5	0.2	0.2	1.5	-1.3	0.2	1.0	0.7	0.6	0.6	0.4
West Germany	← high, but falling unemployment →					← boom →		← tendency to → recession		← boom →		
Public sector(2):				← re- → cession								
Descretionary and automatic	-0.4	-0.4	0.3	1.5	-0.3	-0.4	0.1	0.8	0.6	-0.1	1.1	0.3
Descretionary	n.a.	n.a.	n.a.	1.8	1.2	1.7	1.9	2.2	1.5	0.9	1.8	1.7
Automatic	n.a.	n.a.	n.a.	-0.3	-1.6	-2.1	-1.8	-1.4	-0.9	-1.0	-0.7	-1.4
Central government:												
Descretionary and automatic	-1.0	-0.8	-1.0	0.4	-0.6	0.2	0.0	0.0	-0.3	-0.7	0.3	-0.1(3)
Descretionary	n.a.	n.a.	n.a.	0.9	0.3	0.8	1.1	0.9	0.4	-0.4	0.8	0.6(3)
Automatic	n.a.	n.a.	n.a.	-0.5	-0.9	-0.6	-1.1	-0.9	-0.7	-0.3	-0.5	-0.7(3)

Belgium	← high, but falling unemployment →		← boom →	← recession →		← boom →		← tendency to recession →		← boom →		
Public sector:												
Descretionary and automatic	-0.6	0.0	-0.9	1.4	0.8	0.3	-0.4	0.3	1.4	0.0	1.0	0.3
Central government:												
Descretionary and automatic	-0.6	0.1	-0.6	0.6	0.3	0.9	-0.6	0.1	1.2	-0.1	0.6	0.2
Descretionary	-0.2	0.3	0.0	0.4	0.7	1.0	-0.2	0.8	1.7	0.6	1.0	0.6
Automatic	-0.4	-0.2	-0.6	0.2	-0.4	-0.1	-0.4	-0.7	-0.5	-0.7	-0.4	-0.4
Italy	high, but falling unemployment →					← boom →				slight recession		
Public sector:								← inflation →				
Descretionary and automatic	0.3	-0.8	0.2	1.0	0.2	-0.1	0.3	0.6	1.2	0.5	1.2	0.4
Central government:												
Descretionary and automatic	-0.5	-1.0	0.3	-0.2	-0.2	-0.3	0.6	-0.4	1.0	-0.2	-0.1	0.0(4)
Descretionary	n.a.	0.1	0.5	0.9	0.4	1.1	1.7	0.9	1.2	0.4	-0.2	0.7(4)
Automatic	n.a.	-1.1	-0.2	-1.1	-0.6	-1.4	-1.1	-1.3	-0.2	-0.6	0.1	-0.7(4)
France	← inflationary boom →			← slight contraction →		← boom →			tendency to recession	← boom →		
Public sector:												
Descretionary and automatic	1.6	1.8	0.2	-0.2	0.1	0.0	0.1	1.0	0.3	0.1	0.6	0.5
Central government:												
Descretionary and automatic	0.7	2.1	-0.2	-0.1	0.0	-0.2	0.1	0.7	0.0	-0.4	0.1	0.0(3)
Descretionary	n.a.	n.a.	n.a.	-0.5	0.6	0.7	0.9	1.1	0.9	1.5	0.5	0.8(3)
Automatic	n.a.	n.a.	n.a.	0.4	-0.6	-0.9	-0.8	-0.4	-0.9	-1.9	-0.4	-0.8(3)
United States	← boom →			← recession →			← recession →			← boom →		
Central government(5):				← high unemployment →								
Descretionary and automatic	-1.6	0.0	0.7	0.9	-0.8	-0.8	1.3	0.2	-0.4	0.5	-0.3	0.0
Descretionary	-1.1	-0.1	0.6	0.0	0.0	-0.6	1.0	1.0	-0.2	0.7	0.6	0.2
Automatic	-0.5	0.1	0.1	0.9	-0.8	-0.2	0.3	-0.8	-0.2	-0.2	-0.9	-0.2

1) Including the Social Security System.

2) Excludes public enterprise investment.

3) Average for 1958-65.

4) Average for 1956-65.

5) Including Federal Sponsored Social Security Programmes.

Source: Fiscal Policy as a Tool of Economic Stabilisation by A. Lindbeck in Kyklos 1970 23(1).

Nevertheless in spite of these stabilization policy failures, a 1977 OECD report(1) concluded, "The government's control over public revenue and expenditure, and lower interest rates and the supply of money and credit have a central role to play in promoting economic growth and containing inflation", the Report added that, "the authorities should aim to steer demand along the relatively narrow path consistent with achieving a sustained recovery". A cautionary note was, however, added to the effect that, "in view of the difficulties in indentifying new trends, the fallibility of forecasts, and the delays before action is taken and has its impact, policy should be cautious, in the sense that when there is an apparent need to change course, there should be a presumption against taking all the expansionary or restrictive action required in one go".

In the light of these general comments on the success of counter-cyclical policy an assessment of counter-cyclical and transport policies can be made. This assessment is carried out in the following sections along the lines indicated in the Introduction: firstly, an analysis of the relationship between counter-cyclical policy and the long term structural control of transport by governments; secondly, an analysis of counter-cyclical measures aimed directly and solely at the transport sector; thirdly, an analysis of counter-cyclical measures aimed directly but not solely at the transport sector; and fourthly, the role of general counter-cyclical measures in affecting the demand for transport services.

Counter-cyclical Policy and structural policy for transport

Government intervention in the transport industry has been very extensive. Original intervention was aimed in the main at protecting consumers from monopoly practices on the part of the railways. Thus as early as 1844 in the United Kingdom the Board of Trade was given powers of intervention if railway dividends exceeded 10 per cent and could in such instances insist on tariff reductions. The Treasury was given powers of compulsory purchase, and every railway company had to run one train per day which stopped at every station and for which the charge could not exceed 1 penny per mile.

It was an easy step from controlling rates to prevent monopoly exploitation to the manipulation of rates to further government economic and social policy. Broadly speaking the manipulation of railway rates was of three types. Standard rates were reduced for export goods (export subsidy), increased for imported goods (external tariff), and reduced to aid certain regions, industries and groups of people. Immediately before the creation of the European

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1) Towards Full Employment & Price Stability (OECD Paris, 1977).

Communities, for example, home produced coal in Germany was carried at rates, according to distance, up to 23 per cent lower than those for imported coal. Rock sea-salt in France, intended for export, was transported, according to distance, at a rate up to 38 per cent lower than for purely internal movements. In Italy, machinery and materials destined for Southern Italy, Sardinia and the other islands were subject to reductions of up to 50 per cent in the normal tariff. And in Germany the special sea-port tariffs provided for lower rates when merchandise was carried to the German sea-ports in order to prevent traffic going to the cheaper Dutch ports. In passenger transport special rates were offered to such groups as soldiers, state employees and certain types of workpeople.

The whole system was one of cross-subsidisation with unremunerative services financed from surpluses on profitable routes and traffics. It depended upon obligation to carry, scheduled services, published tariffs and large areas of operations; all of which conditions were met by the railway companies.

With the advent of road competition on an increasing scale after the First World War the railway companies were only in a position to meet social service obligations if they were given financial aid and/or protected from road competition. The rail protection argument was a much more important reason for the restrictive road transport measures of the 1930s than any argument about instability and cut-throat competition in road transport.

Rail protection took a variety of forms but the following features were common to the central systems of many countries:

1) The granting of monopoly areas of operation to public passenger undertakings with tariffs controlled and manipulated to further government policy.
2) Constraint of the capacity of both public passenger and professional freight road capacity for long-distance traffics to prevent competition with rail.
3) The control of tolls and tariffs on inland waterways for national movements in order to both protect the railways and further general Government economic and social planning.
4) The control of professional road haulage tariffs to prevent competition with the railways and prevent excess price competition amongst hauliers.

Short-distance professional road haulage and unscheduled public road passenger services were frequently left either uncontrolled or only lightly controlled, as were freight transport on own account and private passenger transport.

The degrees of protection and financial aid varied from country to country, and indeed in the Netherlands where, due to the short

distances and extensive network of inland waterways, the railway never held a monopoly position in freight no legislation to control road haulage was introduced until 1954.

Legislation has both directly and indirectly affected the structure of the transport industry. Directly, in so far as legislation was aimed at combatting instability (imagined or real) in road transport; and indirectly, in so far as the use of certain modes of transport as instruments of government social and economic policy entailed restricting the growth and operations of competing modes. In Germany and France, for example, where legislation is the most restrictive with respect to freight transport within the member states of the European Communities, only about two-fifths of the total ton/kms worked by the transport industry is by road, whereas in the United Kingdom with a liberal system the figure is about four-fifths. Clearly factors other than legislation have played important roles in determining the present modal-split but legislation has been a very dominant factor.

Besides capacity and tariff controls other aspects of legislation have been directly aimed at influencing the long term structure and operations of the transport industry. These include such factors as infrastructure investment, taxation, and technical regulations.

There can be a general policy of investing in the railways even though the direct returns are low as part of the policy of supporting a mode obliged to offer a social service. Such a policy has assisted in preventing a more rapid decline of the railway. On the other hand it was a very common feature of policy during the inter-war period to invest in highway infrastructure as a means of alleviating high levels of unemployment. This, of course, substantially assisted road transport operators. Similarly taxation and technical regulations have been employed by governments to directly assist one mode of transport as opposed to another. Tax discrimination has been apparent in nearly all countries between rail and road operators, and in countries like France and Germany even between professional and own account road haulage operators.

This longer term structural policy towards transport, both with respect to legislation aimed directly at influencing the operations of specific modes and legislation which indirectly affects transport structure through using the industry as a long term policy instrument, has important consequences for the industry in relation to short term economic changes (the trade cycle).

The effect of this long-term structural policy should be to make some modes less able than others to meet short-term fluctuations in demand. It is true that, for instance, in the Netherlands flexibility in the road haulage licensing system allows for expansion

of capacity to meet short-term fluctuations, but a long-term constraint is bound to inhibit behaviour with respect to short-term demand fluctuations. Other licensing constraints with respect to area of operation and types of goods carried also inhibit short-term flexibility.

Cumbersome practices for determining tariffs can also prevent the normal working of the price mechanism in the short-term which carries with it serious implications for short run allocation of resources and also for stabilization policies. Price changes are an important part of the built-in stabilization mechanism. On the other hand rigidity at a time of rising inflation could be a positive advantage.

As has been indicated these long-term policies can affect the structure of an industry in such a way that it becomes more vulnerable to short-term changes in demand. Where, for instance, a mode has been kept artificially small through the effects of legislation its traffic tends to be less representative of industry as a whole than is the case for more important modes and this will put the cycle of a particular mode out of phase with the general trade cycle. General counter-cyclical policy based on changes in gross domestic product could, therefore, be of precisely the opposite type required by a particular mode. It is possible for the paradox to arise here that where counter-cyclical policy is differential as between sectors the policies applied to a particular mode may be different, both in size and direction, to those applied to the sectors which are the main industrial users of the mode.

Even where a mode is relatively large this can also be the case, because licensing constraints may restrain a particular operator to specific areas and traffics.

This would all tend to suggest that long-term structural legislation in relation to the transport industry could (a) inhibit a mode or operator in its ability to meet short-term fluctuations demand, (b) place some operations out of phase with the overall trade cycle and thereby subject them to damaging effects from government general anti-cyclical policy.

The analysis of the previous Chapter allows some testing of these hypotheses. The size of mode and its diversity of operations (or diversity of operations of an individual operator) argument would suggest that rail in the United Kingdom, long distance road haulage in the Federal Republic of Germany and inland/coastal shipping in both countries would be out of phase with the cycle. Also that own account freight transport in both countries, short-distance haulage for hire or reward in Germany, and haulage for hire or reward in the United Kingdom would be in phase with the cycle.

The hypothesis would seem to break down in relation to road freight transport. However, as mentioned in the previous Chapter it does appear that industry stabilizes its demand for its own transport by withdrawing its traffic from public operators during downswings, and by sending extra traffic by public operators during upswings in the cycle. Such a policy would not only place own account freight transport out of phase with the general trade cycle, but it would also exaggerate the cycle for professional operators.

The analysis of trade and transport cycles would not therefore appear to contradict the hypothesis.

A specific problem raised in the previous arguments was that a mode out of phase with the overall trade cycle could be subject to damaging effects from general anti-cyclical policy. The previous analysis showed, however, that in some instances, "counter"-cyclical policy turned out to be pro-cyclical; being out of phase was, therefore, an advantage and not a disadvantage in such instance.

Counter-cyclical measures aimed directly and solely at the transport sector

The most important measures under this heading are fuel taxes, vehicle taxes, tariffs, and infrastructure investment.

An important attribute of fuel tax as a counter-cyclical instrument is the generality of its incidence. Very many more people use transport than pay income tax and the incidence of fuel tax is, therefore, even more widespread amongst the general public than a tax on earnings. The fact that it also affects the whole of industry makes it perhaps the most widely applicable fiscal measure. Vehicle excise licences also have this very wide applicability.

Although the incidence of these two types of tax is very wide it is not equal amongst individuals in absolute terms. Thus the increase in the cost of using public transport, resulting from an increase in fuel tax, will be much less in absolute terms for an individual than the increase in the cost of car transport per individual. The same kind of arguments apply to private and public freight transport but one must always be careful of generalities in comparing energy consumption and modes, either freight or passenger.(1)

The effectiveness of the tax as a counter-cyclical instrument will, therefore, depend upon the distribution of traffic between modes and the demand elasticities and multipliers associated with each mode.

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1) For an extensive discussion of this point see Raw Material Resources & Transport by B.T. Bayliss (OECD Paris, 1975).

The 1968 OECD report on fiscal policy commented(1) in particular that the make-up of indirect taxes in France helped achieve strong automatic stabilizers as they were "largely concentrated on expenditures with a high income-elasticity, e.g. motor transport, and relatively little on alcohol and tobacco, income elasticities of which are low". Other studies(2) of both passenger and freight elasticities, however, do not support this view. Also, the analysis of trade and transport cycles in the previous Chapter indicated the substantial differences between short and long run elasticities in passenger transport even with enormous price changes.

Except for discouraging exports government policy towards tariffs as a policy instrument for public freight and passenger transport has been aimed at maintaining tariffs at existing levels or at lowering existing ones. Tariff manipulation has largely been of a structural nature; it has been aimed at assisting certain deserving groups of people, e.g. pensioners, who are frequently users of public transport, and certain industries and regions. Its importance as a structural instrument in relation to industrial and regional policy stemmed from early work on location theory with its enormous emphasis on the role of transport costs.

In 1937 E.A.F. Robinson wrote(3), "the factors which influence the choice of place of production fall into two broad groups; first the factors which determine where transport costs involved will be at a minimum, second the factors which make for lower costs of production at some places than others". In E.M. Hoover's later standard work(4) on the subject it was argued, "Transfer costs affect the locational preference of a producer unless his supplier or customer 'absorbs' these costs completely".

However, even if these arguments were realistic then, and doubts were certainly raised at the time(5), changes in the nature and structure of industry have generally substantially relegated the importance of transport costs in industrial decision-making.(6)

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1) Op. cit., page 39.

2) See Bayliss (OECD, 1975) and (OECD, 1973) op. cit.

3) The Structure of Competitive Industry by E.A.G. Robinson (London, 1937).

4) The Location of Economic Activity by E.M. Hoover (New York, 1948).

5) See, for example, Location of Industry by S.R. Dennison (London, 1939).

6) See, for example, "Transport Costs in British Industry" by S.L. Edwards in Journal of Transport Economics & Policy (4) 1970.

Also as a stabilization weapon the policy of holding transport tariffs down in order to either help keep up real income or counter general inflation is very weak. It can only be applied to public road and rail transport in the case of passenger traffic and in the case of freight only really to rail. As the bulk of both passenger and freight traffic will be unaffected by the instrument it is much less effective than a fuel tax as a stabilization weapon. In 1961, Rogmann(1) considered transport tariffs to be a rather ineffective counter-cyclical instrument on account of inappropriate elasticities of both passenger and freight transport, and delays in the impact of such measures.

Investment in road infrastructure was a very popular instrument for alleviating unemployment in the 1930s. Its effects could be regionalised to the extent that it was not very dependent upon capital goods which for other types of public instrument might have to be obtained from outside the region of high employment. As road infrastructure was provided in most countries solely by public authorities there was no question of it displacing private investment. It was also highly labour intensive. Such policies were also considered to be of high utility to the community and likely to induce further investment and employment opportunities through easing the means of communication.

The importance attached to highway expenditure as an employment instrument in the United States in the depression of the 1930s can be seen from Table X below. Although it falls sharply after 1931 this is to some extent explained by work relief construction, a large part of which was highway work and not included under that heading.

Even in the case of mitigating structural unemployment Galbraith emphasized in his official report on the Economic Effects of the Federal Public Works Expenditures 1933-38(2) the need for flexibility. One of the six considerations he stipulated for selecting public works was, "The flexibility of the project, the ease with which it can be undertaken at the appropriate time, and the ease with which its prosecution can be controlled or curtailed in relation to the need for rapid expansion or contraction of employment". To this end a whole range of highway plans were prepared in the United States during the 1930s in an attempt to achieve flexibility. However, in the case of the use of infrastructure investment for counter-cyclical purposes this requirement becomes much more

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1) Verkehrspolitik & Konjunkturpolitik by R-N Rogmann (Verlag Handelsblatt G.M.B.H., Düsseldorf 1961).

2) By J.K. Galbraith, National Resources Planning Board, United States Government Printing Office, Washington, 1940.

Table X

ESTIMATED EXPENDITURES FOR NEW CONSTRUCTION, BY TYPES, ACCORDING TO PUBLIC OR PRIVATE AUSPICES, 1925-38

PRIVATE

(In millions of dollars)

Year	Residential nonfarm	Nonresidential	Farm construction (including repairs)	Public utility construction	Total private
Average 1925-29	4,170	2,318	469	1,384	8,341
1930	2,195	1,867	367	1,512	5,941
1931	1,396	1,110	259	947	3,712
1932	641	539	125	462	1,767
1933	314	357	175	245	1,091
1934	272	453	200	307	1,232
1935	533	450	284	338	1,605
1936	1,101	658	328	464	2,551
1937	1,393	933	360	640	3,326
1938	1,509	762	336	500	3,107
Average 1933-38	854	602	281	416	2,152

PUBLIC

Year	Highways	Nonresidential building	Residential	Conservation and development (Federal)	Public service(1)	All other(2)	Work relief	Total Public
Average 1925-29 ..	1,161	610	....	71	432	18	....	2,292
1930	1,481	647	....	111	500	38	....	2,777
1931	1,323	591	....	135	479	49	....	2,577
1932	916	408	....	139	291	40	....	1,794
1933	675	191	....	168	142	40	138	1,354
1934	821	180	1	245	157	55	715	2,174
1935	611	235	9	311	192	45	447	1,850
1936	807	481	61	310	299	36	1,222	3,216
1937	794	412	93	286	262	47	994	2,888
1938	841	506	32	293	266	84	1,206	3,228
Average 1933-38 ..	758	334	33	269	220	51	787	2,452

1) Includes sewage disposal and water supply.

2) Excludes naval vessels and railroad equipment but includes military construction by War and Navy Departments.

Source: Economic Effects of the Public Works Expenditures 1933-38 by J.K. Galbraith (Washington 1940)

important; and as the post-war cycles have been much shorter than pre-war cycles any substantial lags can make the policies destabilizing rather than stabilizing in that the contrary stage of the cycle has been reached before impact is experienced.

In two studies(1) on highway expenditure in the United States it was concluded that although it had not happened in the past the possibility existed of reducing the various lags thereby making infrastructure investment a suitable counter-cyclical instrument. Miss Friedlander concluded that, "highway construction expenditures could be timed in such a way that within a year and a half after the initial downturn virtually all their indirect effect would have been completed, and within another six months all of their indirect effect upon the materials-producing industries would have been completed".

This conforms, therefore, with the recommendation of the 1968 OECD Report on Fiscal Policy(2) that, "in the case of public investment, the speeding up or slowing down of certain smaller projects, specially selected in advance, may provide sufficient flexibility, with sizeable and possibly costly swings in larger programmes being avoided."

A second important factor in the use of highway investment as a counter-cyclical instrument is that the instrument should have a substantial as well as speedy impact on the economy. Miss Friedlander concludes(3) that, "there are a sufficient number of small projects to enable a counter-cyclical highway fund to have a considerable impact upon the economy." This impact is, of course, not only dependent upon the initial number of jobs created but also upon the subsequent multiplier effects. And with respect to these it has been maintained that "the cumulative effects upon total demand of an increase or decrease in public highway expenditure are currently very small in both positive and negative directions".(4)

A more recent conclusion drawn in relation to this problem was made in an interesting work employing input-output analysis to establish the secondary effects of infrastructure investment: "in

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1) "The Federal Highway Program as a Public Works Tool" by A.F. Friedlander in Studies in Economic Stabilization (The Brookings Institute, Washington, 1968), "Reducing the Lags in Government Spending: An Empirical Analysis of Highway Construction" by E.W. Adams & M.H. Spiro in Public Finance 1973 28(2).

2) Op. cit., page 161.

3) Op. cit., page 110.

4) Verkehrswegeinvestitionen als stabilisierungspolitisches Instrument by H. Sandhägen (Vandenhoeck & Ruprecht, Göttingen, 1967).

spite of the fall in the efficiency of transport infrastructure investment as a stabilizing force it continued to demonstrate stabilizing properties".(1)

A final short comment in this section should be made in relation to the use of the railway as a reserve employer of surplus labour. This was extensively practiced in the Federal Republic of Germany and was envied in at least one other country - "I am of the opinion that the State should assume the position of the reserve employer of labour. I am very sorry that we have not got the railways in our hands" (Winston Churchill, Glasgow speech, 1906).

In contrast to roadbuilding such a policy has two fundamental flaws. Firstly, the work provided is not constructive as with sinking demand during a depression there can be no extra normal operating work for such people on the railways; and secondly, there is little possibility of transferring the people so employed to more constructive work once the upswing begins. The policy fails on both the lack of utility and the lack of flexibility.

Counter-cyclical measures aimed directly but not solely at the transport sector

Although the types of counter-cyclical measures aimed directly and solely at the transport sector have been the subject of a number of studies, the effect of general counter-cyclical measures on the transport sector have received no attention in the literature. The types of measures included in this section include such things as corporation and profits taxes, and investment allowances.

These measures are of little importance to rail transport but could be important to road transport and inland shipping. The basic question here is the influence of these factors upon investment in the transport industry. If investment in road transport is out of phase with the general industrial investment cycle, then attempts by governments to stimulate industrial investment could be at inappropriate times for the transport industry.

There are two basic reasons why investment by professional road transport operators might be out of phase with the cycle. Firstly, changes in demand for transport might be out of phase with the general trade cycle; and secondly, transport investment (excluding infrastructure) is probably not subject to the lags experienced in other sectors, as it revolves mainly around vehicles (see Table XI below) and is therefore likely to be more flexible in relation to demand or anticipated demand changes. From Table XII below it can be seen that there is some evidence that changes in investment by

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1) Verkehrsinfrastrukturinvestitionen als Mittel einer wachstumsorientierten Konjunkturpolitik by K. Schmidt (Verlag A. Hellerdoorn, Bentheim, 1976).

Table XI

GROSS DOMESTIC FIXED CAPITAL FORMATION BY TYPE OF ASSET
IN THE UNITED KINGDOM 1966-76 AT CURRENT PRICES

£ mill.

	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976
Vehicles											
Road haulage	89	79	92	109	111	94	106	132	160	150	185
Public road passenger	34	26	29	15	22	13	10	12	26	55	53
Plant											
Road haulage	9	8	9	11	11	10	14	13	21	19	18
Public road passenger	3	2	1	2	3	4	3	4	3	7	7
Buildings											
Road haulage	10	10	9	16	16	24	21	19	28	25	23
Public road passenger	4	5	5	4	4	4	9	15	14	22	35
Total Fixed Assets											
Road haulage	108	97	110	136	138	128	141	164	209	194	226
Public road passenger	41	42	48	46	62	69	78	93	96	143	176
All sectors	6,922	7,523	8,200	8,590	9,453	10,515	11,606	14,127	16,947	20,656	23,427

Source: Based on National Income & Expenditure Accounts.

Table XII

RATE OF CHANGE IN GROSS FIXED CAPITAL FORMATION IN ROAD TRANSPORT AND ALL SECTORS IN THE UNITED KINGDOM 1967-76 AT CURRENT PRICES (AS PERCENTAGE OF PREVIOUS YEAR'S FIGURES)

	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976
Total Fixed Assets										
Road haulage	-8.3	+13.4	+23.6	+1.5	-7.3	+10.2	+16.3	+27.4	-7.2	+16.5
Public road passenger	+2.4	+14.3	-4.2	+34.8	+11.3	+13.0	+19.2	+3.2	+50.5	+23.1
All Sectors	+8.7	+9.0	+4.8	+10.1	+11.2	+10.4	+21.8	+20.0	+21.9	+13.4

Source: Based on National Income & Expenditure Accounts.

road operators, and particularly road hauliers, is out of phase with changes in overall industrial investment.

Counter-cyclical measures and demand for transport services

It has already been pointed out that counter-cyclical measures are aimed primarily at personal consumption and at industrial investment.

In relation to passenger transport the evidence is that demand is relatively inelastic. This means, therefore, that changes in personal spending power resulting from counter-cyclical policies will have only a limited effect on the transport industry.

Actions to stimulate industrial investment will have an important impact on the capital goods and construction industries. Where these are important customers of a particular mode they could have important implications for transport especially as industrial investment moves with gross domestic product in a number of countries rather than being a lead indicator. This also raises the interesting question between the demand for some modes and the housing cycle.

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SUMMARY OF THE DISCUSSION

A. THEORETICAL ANALYSIS OF CYCLES

The Round Table began with a brief discussion of some of the topic's theoretical aspects. Its feeling is that, despite appearances to the contrary, the subject is essentially a concrete one and of current significance.

A distinction must be made forthwith between structural and cyclical elements. The current level of domestic activity within a sector is in turn conditioned in large measure by external factors. The steel crisis, for instance, is due mainly to competition from third countries and the energy crisis affects public transport.

The trend in transport traffic therefore varies quite considerably according to the transport mode and also as between passenger and freight traffic.

As to the difficulties of making a theoretical assessment, particularly in statistics, some advocate using indicators of activity for different sectors, with less recourse in consequence to the GNP aggregate.

While it is true that GNP is not an absolute criterion for assessing the current level of activity, it is nevertheless risky to use approaches which are confined to individual industrial sectors. For instance, a single sector like metalworking has a flourishing automobile industry and a shipbuilding industry in a severe state of crisis. One criterion might be the rate of capacity utilisation.

The global nature of GNP and the flaws inherent in this type of indicator should not be lost sight of. There are many indicators which could conveniently be used instead, but then differences soon crop up as between countries when the importance of certain activities is assessed; the manufacturing industries, for instance, provide a good example of how assessments may vary.

There are also the more socio-economic approaches that focus on goods which do not go through a market, such as passenger transport. Transport on the whole is a fairly good indicator of current economic activity and shows quite well the structural changes that occur over time and as between areas. It is important, however, to cover properly all transport activities; this applies particularly to

owner-operated transport since it is sometimes used as a substitute for transport for hire or reward.

There are other reasons for an overall approach to transport: for example, the decline in coal transport has mainly affected the railways.

Certain aspects of counter-cyclical policy can come into play moreover, particularly at sectoral or regional level. It is therefore necessary to determine the impact of such policy measures and then find out how transport is affected at these levels.

The measure of assessment also depends on the areas or part-areas in which the government wishes to intervene; in this connection, some countries tend to take personal consumption as the main indicator.

Finally, recent history has shown that it is necessary not only to have information on assets and goods but also on the time scheme that conditions certain movements of persons.

B. RELATIONSHIP BETWEEN TRANSPORT AND LEVELS OF ECONOMIC ACTIVITY

1. Passenger Transport

Passenger transport is correlated more closely with income than with GNP, and at this level it can be established that households' expenditure on travel has risen relatively steeply.

The mobility rate is of great importance; it varies appreciably according to category of persons and also depends on certain constraints, one of which, apart from income, may be location; for instance, a fairly dense population in suburban areas will obviously generate heavy commuter traffic.

This means that a clear distinction should be made between the various kinds of travel, although the statistical breakdown might raise problems, particularly for an accurate assessment of the purpose of certain journeys.

School transport traffic seems to develop independently of the trend of economic activity, unless perhaps in a counter-cyclical manner.

Furthermore, it is well-known that there has been a conspicuous growth in long-distance holiday traffic, which is further increased by the seasonal movements of immigrants.

A correct assessment of breakdowns can be obtained more easily with absolute figures than with percentages, whether the object is to determine a breakdown or to show a trend.

Incidentally, the modal split could depend on certain transport investments which stimulate a specific mode or type of travel.

Ultimately, the modal split depends partly on supply; an economic trend must therefore be assessed mainly on the figures for all modes, the more so since modal trends vary from country to country.

2. Freight transport

Since certain modes are visibly out of phase with cycles, there are structural reasons which will have to be gone into.

The different types of freight vary considerably in their reaction to economic trends. Moreover, in addition to the structural factors, there may also be economic or regional policy action.

The fact that transport is at the service of the primary activities of the economy means that it has to be integrated into a production and marketing complex; this may explain some of the railways' deficiencies. On the other hand, railways may have the advantage when stocks build up and when the need for rapid marketing is consequently less, although even then it would be necessary to know to what extent the priorities could be eased by market research and planning in accordance.

The concern to maintain employment may also explain some of the differences in traffic trends; if necessary, traffic may even be channelled to transport modes threatened with underemployment which would lead to dismissals. This may be done at the expense of modes in which there is no risk of staff being laid off, i.e. the railways.

In some cases, owner-operated transport reacts in a countercyclical manner; in periods of reduced activity this type of transport may improve the whole process of production, with vehicle subcontracting being reserved for traffic peaks only. But there are also reverse tendencies: plentiful and cheap transport for hire or reward may activate this sector. Furthermore, some redeployment of economic activities (e.g. traffic to and from the Middle East) imparts a new stimulus to this transport category. Substitutability, in particular, seems on the whole to play a major role in periods of reduced activity.

It can be inferred from the above that the real advantages of a transport mode are confirmed mainly in times of recession. A country's size and its trade flows must also be taken into account, since they can influence GNP formation; this is especially true when a large share of the transport product is exported or when a considerable amount of transit traffic goes through a particular territory.

Generally speaking, undertakings run on a commercial basis do not equip themselves just for peak periods of activity; on the contrary, they feel the need to step up certain activities in periods of recession. But what is logical for the undertaking is not necessarily so for the community. This poses the question of what sort of regulatory action would be judicious.

It should be noted, too, that at macro-economic level the choice of transport mode will not have an impact, since it is relatively unimportant where there is unemployment and under-utilisation of capacity.

An exact assessment of the business cycle - transport relationship therefore depends on the degree to which the said trends run throughout the economy; this measure in turn may determine whether effective policy measures are taken. While the relationship between GNP and transport can be established in the aggregate, this is not true of individual transport modes or individual categories of production.

Structurally, it is apparent that the railways are maladjusted to the changing needs of the market; the Round Table considers, thereby endorsing the conclusions of Round Table 39, that there is still much to be done to remove certain weaknesses in supply.

In the cyclical context, it can be seen that in periods of recession the railways lose certain traffic to road transport and do not get it back afterwards.

In a way, sensitivity to cyclical trends is aggravated by structural imbalance between supply and demand.

In the case of the railways, specialisation of the "traction function" may be a solution. The problem would then be posed in intermodal terms; each mode would specialise its services, particularly by using combined transport.

Similarly, the purposes served by multi-modal forwarding agents should be definitely established, but it is not easy for the railways to put themselves on the same level as small operators and hand over responsibility to the forwarding agents.

C. TRANSPORT AND COUNTER-CYCLICAL POLICY

At this stage, the structural characteristics and the restrictions specific to transport should be defined. They may show whether there is an obstacle to the flexibility of the operators or what factors might have the effect of accentuating their inefficiency.

Flexibility differs according to the transport mode for reasons which are both structural and technological; one of the features of railways and inland waterways is long-term investment. These differences should be taken into account in counter-cyclical policies.

Road transport is handicapped by certain regulations (rates, quotas); this is particularly true for the rigid pricing system which makes it impossible to establish financial reserves in boom periods of activity. Correctives are needed for this, as is happening with the scrapping of craft in inland waterways.

Price regulations, however, have no macro-economic effect; they have more of an impact on the traffic modal split. Isolated measures

have little effect in situations which are essentially governed by the financial strength of competitors and by the size of the undertakings.

Experience shows that it is very difficult to maintain and control the level of rates when demand falls; it is then preferable to free prices and seriously regulate access to the industry and to the market.

The difference between road transport undertakings gives rise to different cost structures and, particularly in periods of depressed activity, this is a possible destabilizing factor. The problem of professional capacity is thus coupled with a problem of surplus capacity on the supply side, which is why it might be advisable to remove part of this surplus by means of regulatory measures.

The various forms of regulatory action should be well integrated. Transport is in fact fairly vulnerable to swings in the economic cycle; because transport is part of a global process its profitability may be less than that of other economic sectors. Furthermore, there is a tendency for capital to be concentrated in sectors which are relatively profitable, in this instance, roads.

Finally, it has also to be considered whether transport has paid sufficiently for the use of its infrastructures: if not, there is even more negative profitability.

D. EFFECTIVENESS OF MEASURE

In any critical analysis of the direct or indirect measures taken in the transport sector, two requirements should be borne in mind:

- the need to find out the initial purpose of the measures and their overall impact on economic activity;
- the need then to identify the individual effects on employment in transport, on employment in the other sectors of activity and on the flexibility of transport.

Obviously, there may be some conflict between the various effects, particularly between those which stimulate employment and those which affect transport flexibility.

On the whole, it is preferable not to consider efficiency within a given budget; in fact, it is often more effective to transfer expenditure to a sector outside transport. For instance, it may be more effective not to create jobs in the railways from the railways' budget but to transfer these financial resources to create or maintain employment in more productive sectors elsewhere in transport or even outside transport.

It is never advisable to subsidise unproductive jobs since this only covers up and aggravates the basic difficulties. The maintenance of unproductive jobs necessarily ends up by amplifying the problem in the longer term, even if it seems to provide an immediate solution. Employment policy can therefore only help to stimulate the economy if it is deliberately directed towards the rationalisation of employment, something which does not preclude an improvement in working conditions but rather goes hand in hand with it.

In short, subsidies should not be confused with investment since the latter applies only to a productive process.

The employment problem is complex and global and cannot be solved satisfactorily at sectoral level. It involves global solidarity, an improvement of working conditions and continuous occupational retraining.

There is, furthermore, some ambiguity between job-creating transport and service-creating transport, so it is important to consider all the resources absorbed by transport.

Since transport impinges on a whole set of economic and social transactors, it can influence economic activity in many different ways, e.g. by encouraging trade and by consuming industrial products. This is a particularly sensitive point where the motor car is concerned; on the other hand, there are also all the risks inherent in overdeveloped production monostructures.

Action might therefore be considered with regard to:

- investment;
- staff training;
- management of the undertakings;
- administrative supervision.

It is important to know how these various measures can stimulate the influence of transport in short-term economic policy.

Particular attention is generally paid to infrastructural investment, which is one of the principal regulatory instruments used by the authorities. While it is essential to make a clear distinction between appropriations for running a concern and those for investment, in practice these two categories frequently merge and may be found combined in some kind of subsidy.

Although infrastructure is of undoubted importance to the economy, it is nevertheless advisable to think about the possible counter-cyclical impact of infrastructural investment.

In this connection there is too often a tendency to continue to use arguments which were entirely valid in 1930 but not longer fully correspond to the facts of today. In particular, one may note the following differences compared with previous economic depressions:

- public works now absorb much more capital and distinctly less manpower;
- international interdependences have really established themselves;
- foreign manpower, possibly immigrant for this type of work, consumes very little and therefore contributes very little to the multiplier effect attributed to such work;
- this is also the case with job creation for the unemployed; their consumption will not increase to any great extent if they find a job; social policy is in fact now based mainly on the maintenance of a certain level of purchasing power, irrespective of work.

While infrastructural investment may have positive effects on a whole number of supply industries, there are still certain risks involved. A surge in public works activity can have inflationary effects, and so the optimum volume of work to put in hand should be carefully gauged.

Demand for infrastructure capacity is undoubtedly always weaker in periods of recession; investment then does not correspond to evident and immediate transport needs. This is another reason for selecting investment in such a way that its impact will at least be positive (i.e. rationalising) in the longer run and not a further destabilizing factor in the economics of transport.

It is therefore equally important to try to find ways of stimulating the economy other than through investment in infrastructure. As regards infrastructure, priority should be given to improvements (adjustments and extensions) in existing facilities.

In the railways, these improvements may be on a fairly large scale since the networks have remained too entrenched in an old-fashioned system which is no longer suited to modern requirements for capacity and speed.

Again in the case of the railways, investment should help to rationalise output and this means that greater selectivity is necessary. Indeed, over and above certain counter-cyclical effects it is necessary to aim at structural reorganisation of a durable nature.

The weakening of the multiplier effect is not peculiar to investment in transport; it is also apparent in many other economic sectors. What is more, the impact could even become procyclical instead of counter-cyclical.

In the present political context, the negative attitude of public opinion to certain major schemes has also to be reckoned with. Reaction of this kind may considerably delay the start of work.

In any case, between the conception and completion of public works there is a relatively long lapse of time taken up by planning, administrative procedures, expropriations and the actual carrying out

of the work. Infrastructural investment is therefore necessarily a fairly long-term undertaking. But the same is not true of investment in vehicle fleets; this is a point worth considering in more detail since, in view of present needs, investment of this kind may offer a more satisfactory solution than infrastructural investment, particularly because of the shorter lead-time and, above all, the kind of employment involved.

The participants of the Round Table consider that investment for purposes of rationalisation is clearly preferable to investment that amounts to enlarging a capacity for which the future need is not always plainly apparent.

Space is conditioned to a large degree by infrastructures, which may thus interfere with a development needed to deal with a local or regional depression. Transport requirements can best be integrated with a development by improving the efficiency of existing transport. A case in point would be the reduction of losses through spreading of traffic loads.

Some kinds of investment may also have an adverse effect on prices because of the many circuits that have to be passed through. In this respect, too, programmes for renewing rolling stock are more flexible.

To sum up these various considerations, it may be noted that:

- the situation varies appreciably from country to country;
- generally speaking, infrastructure investment has less impact than expected;
- such investment has little temporal flexibility;
- this disadvantage could be mitigated, however, if the planning process were shortened, notably if ready-made programmes were available; this would imply a forward-looking policy which is far from the usual case;
- there is the danger that the stimulative process might get out of hand;
- public works should be integrated with other policy objectives, notably as regards regional planning and development;
- the inflation risks should be carefully gauged and these depend on the scale of work;
- it is frequently preferable to rationalise and modernise existing infrastructure.

In general, it can be seen that private investment falls in times of recession and thus behaves in a pro-cyclical manner. It is difficult to change this behaviour since it is in keeping with market logic.

As regards taxation, certain structural problems of production must rule out sudden manipulations of taxation as a regulatory instrument.

As to whether motor fuel tax could be used to help stabilize the level of economic activity, the problem has to be considered on a case-by-case basis because of the vast incidence of this tax. Generally speaking, information on this subject is not reliable enough and the matter is worth further investigation, the more so since for many reasons some tax adjustments are periodically proposed or envisaged.

Adjustments of the tax on motor fuel have a lower and an upper limit: a lower limit, obviously, for reasons of revenue yield, and an upper limit because of the importance of motorfuel as an item of consumption, undue increases being immediately reflected in an all-round rise in the cost of living. In addition, it matters whether the country concerned is a vehicle producer, in which case a change in taxation may also affect employment.

However, it would be possible to reorganise the tax system for motor cars, in that the fixed proportion of tax could be reduced and the variable share increased commensurately. In practice, it would be a question of reducing the fixed taxes on purchase and maintenance and perhaps abolishing the tax on vehicle ownership while making good the resulting revenue shortfall by increasing the special tax on the vehicle's use.

In that event, purchase and maintenance of vehicles would be stimulated, but their use would be seen more as a direct cost; the user would then be encouraged to make more selective use of his vehicle and to make a modal choice which would be more in keeping with the principles of real-cost pricing. In short, it is possible to reconcile two needs in this way; industrial production must not be impeded, while transport policy requires a more economical use of resources. But the present taxation system makes it impossible to reconcile these two needs, which are not necessarily incompatible.

Lastly, as indirect taxes are not progressive, they are necessarily of limited interest as a demand management tool.

As to the manipulation of rates, this would seem not to be very effective. It often conflicts with social policy, it is liable to interfere with regional policy and it disrupts the conditions of competition in transport. Finally, at the level of overall production, it has only a slight impact because of the very small percentage share of transport costs.

If rates are kept too low for too long, undertakings are deprived of the funds they need for a normal rate of investment, whilst the impact on inflation is all but negligible.

On the other hand, rate increases may in turn lead to price increases in activities linked to transport. For instance, the increase in the price of food transport is augmented by each middleman in the distribution chain, even if in relative terms his costs remain the

same. Furthermore, the increased cost of sea transport may serve to export inflation to the less-developed countries.

In conclusion, the Round Table found that it was difficult to synchronise measures with trends in economic activity. The most practical possibilities concern vehicles rather than infrastructure, and in any case a clear distinction should always be made between the passenger and freight sectors.

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