

# Sensitivity of Central Taxes: 1948-49 to 1954-55

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IT is now commonly agreed that if our objective of rapid economic development is to be achieved within a reasonable period of time, a larger proportion of national income will have to be invested, and that with our present socio-economic goals public investment will play a more important role with the passage of time. Sound fiscal policy demands that tax revenues as a percentage of national income should also increase somewhat proportionately. This can be achieved by increasing rates of existing taxes, by levying new taxes, and by greater productivity of extant taxes. The first and second methods always arouse some resistance. The third, on the other hand, is the least painful, as old taxes are no taxes- The payers have got used and have adapted their business ways and living to the taxes; a certain degree of efficiency in collection and smooth operation of the tax have been already reached. A built-in flexibility in the tax system is, therefore, highly important at this juncture.

Upto 1953 this feature was sadly lacking in our tax system, for, in spite of the many enhancements in taxes and tax-rates, tax revenues as a percentage of national income remained the same over the last two or three decades. The Taxation Enquiry Commission devoted a good deal of thought to increase the range as well as the depth of the tax system so as to make it more income-elastic, but it did not examine the extent of elasticity in the existing tax-system nor in the proposed one. This article aims at performing this two-fold task in the hope that it might help us in building up a more income-elastic tax system-

## PAST STUDIES

Hitherto there have been only a few empirical works on the sensitivity of taxes. Ursula Hicks, in her *Finances of the British Government, 1920-1936*, has made some estimates of the major British taxes, (Table I,

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p 301), and R F Bretherton has worked out the sensitivity of British taxes between 1921-22 to 1935-36. (R F Bretherton, *The Sensitivity of Taxes to Fluctuations of Trade.* *Econometrica*, 1937, pp 176-77.) Mrs Hicks deals with broad aggregates of various types of tax collections without any attempt to reduce them to a common base or any detailed effort to calculate the precise extent of the sensitivities of different taxes. Bretherton's study is more systematic than illustrative unlike Mrs Hicks's, and the processing methodology is more explicit- We have, therefore, relied more on the latter for our calculations.

There is, however, one important difference between our problem and Bretherton's, whose interest was mainly focussed on the behaviour of important individual taxes and the tax system during a cycle. His study extends over a period of fifteen years including an upswing, a downswing and a recovery. Our interest, on the other hand, is in tracing the increases in tax collections consequent on rising national incomes in a period of more or less uninterrupted developmental boom. Our study has, therefore, been confined to the period 1948-49 (the first year after partition) to 1954-55-

## DEFINITION AND MEASUREMENT

Tax sensitivity may be given by the formula :

*Percentage change in the yield of the tax*

*Percentage change in national income*

Since the aim is to determine the tax revenue changes consequent on changes in income, care should be taken in applying the formula to remove the effects of all other changes not connected with income changes. In other words, the bases and rates of taxes must be taken to be the same as during one particular year and tax yields for different periods calculated accordingly.

There are obviously cases where the advice will be difficult to follow. For instance, a change in tax rate, say, in commodity taxation in the interval may itself have affected the tax base, i.e., commodity consumption, and it will be very difficult to

take this into account. Another example of this, especially with regard to income-tax, is when the exemption limits have changed. In applying a rate with a low exemption limit to a set of assessable incomes, some of which are computed on the basis of a higher exemption limit, it is not possible to calculate what the assessable incomes would have been had the previous exemption limit been in force. Practical convenience of calculations and the principle of taking into account only income-induced changes will have to be both given their due.

## FACTORS DETERMINING TAX SENSITIVITY

The sensitivity of a tax system will depend on the sensitivities of the individual component taxes, and their relative importance in the tax system. The sensitivity of an individual tax will be decided by (a) basis of the tax, (b) type of tax rates and (c) real or nominal time lags. If every one were liable to income-tax and the income-tax system were strictly proportional, the sensitivity of the income-tax would be exactly equal to one, and the income-tax yield would vary in the same proportion as national income. In all countries of any importance, however, incomes upto a particular level are exempt from taxation. The effect of a rise in money income not accompanied by an equal rise in the number of persons sharing it is to increase the proportion of assessed income to total income and thus raise the income-tax proceeds more than proportionately. Progressive rates also increase the flexibility of the income-tax. More egalitarian distribution would set in a reverse tendency and *vice-versa*.

A boom has in the past been accompanied by greater increases in the incomes of speculators and entrepreneurs rather than in those of rentiers and wage and salary earners- A policy of rapid development would have the same effect unless accompanied by powerful correctives like wage, tax and price control policies. The basis of a tax may move in advance of, simultaneously with or after the change in national income. The first will introduce a real time

lead and the last a time lag. The administration of a tax may also affect flexibility, or at least the lime lag between the increase in income and the increase in tax yield. A three year averaging for income and super-tax purposes will adversely affect the flexibility of the tax system. A PAYE scheme will reduce the time difference between the earning of income and paying the tax on it. Lax tax collections will increase the interval-

#### COMMODITY TAXATION

Commodity taxation is levied on a very different basis, viz, consumption. Consumption changes much less than income, with a time lag, and commodity taxation is more or less proportional. In general, therefore, commodity taxation will have little flexibility. If the basis of the tax is the quantity of commodity consumed and not the expenditure on it, i e, the tax is specific and not *ad valorem*, flexibility will be further reduced. This reduced tax burden may, however, in certain cases of rising prices where the elasticity of demand is greater than unity, actually increase the tax yield more than *ad valorem* tax, and *vice versa* in time of falling prices. Much will also depend on the type of commodity taxed, whether it is a necessity, a comfort or a luxury good, and whether there is a secularly rising or falling demand for it. Where the consumption is controlled, changes in yield will largely depend on the determining circumstances affecting the control policy.

The other general factors affecting tax sensitivity had better be discussed in connection with our specific problem. In order to furnish comparisons, our calculations for tax sensitivity have been made at three different rates — those prevalent in 1948-49, in 1954-55, and the third suggested by the Taxation Enquiry Commission, (henceforth also called the TEC rate). Discussion is here confined to the four important Union taxes of income-tax, company taxation, customs' duties and central excises. For the entire period, the tax bases have been taken as those that actually prevailed with such modifications as are possible for changes in the tax structure in these years compared to the base years. This rests on the assumption that such tax changes as occurred between 1948-49 and 1954-55 or as were contemplated by

the Taxation Enquiry Commission would not have affected the tax basis. For instance, if the higher excise duties suggested by the Commission were prevalent in 1948-49, it is likely that the consumption of the affected commodities might have been lower. The likelihood of such changes is ignored.

#### Detailed Calculations

##### (a) INCOME AND SUPER TAXES

Assessable income as a proportion of national income may change as a result of the change in distribution of national income between the tax-paying and the non-tax paying groups. The smaller the latter, the less the likelihood of a change on this count. In India, there have been several circumstances leading to a large percentage of income being exempted from income-tax. The exemption level had to be fixed very high in relation to per capita national income on administrative grounds, with the result that less than one half of one per cent of the earners are assessed to income-tax. Agricultural incomes, which have been notoriously fluctuating, are not at all liable to central income-taxation. (The share of agricultural income in the national income which declined to 48.9 per cent in 1952-53 from 51.2 per cent in 1950-51, fell further to 45.2 per cent in 1954-55.) Table I gives the percentage of assessed income to total national income during the period. The changes in percentage here may also be due to two other reasons: (a) Changes in the exemption level from year to year. During the period under review, the exemption level has been raised twice — from Rs 3,000 to Rs 3,600 in 1950, and to Rs 4,200 in 1953. (b) The figures of assessed income pertain not to income accrued during the year and liable to income-tax but income actually assessed in the year. There is often a large and varying lag between the two owing to the problem of large tax arrears.

In a progressive tax system, the

distribution of taxable income among various income-groups is of some significance in deciding the sensitivity of the tax. If in a period of rising money and real incomes a larger portion of taxable income accrues to the upper income-groups largely consisting of entrepreneurs, the tax proceeds will increase more than proportionately and *vice versa*. Tables II and III present statistical data regarding the total income assessed and the total number of assessees by income-groups as deviations of distribution from 1948-49 values. Income-groups have been chosen so as to get consistent data. At the outset it may be emphasized that these tables having been compiled from income-tax records are subject to all the limitations of such data-changes in exemption levels, changing differentiations between earned and unearned incomes, (sometimes in terms of lower rates on earned incomes, sometimes in terms of a particular portion of earned income being exempt), problem of arrears, and large allround evasion. Further, in India companies are liable to income and super-taxes and their incomes have been included in the above data. A very careful sifting and reappraisal of the data would be needed before any conclusion on distribution of income can be drawn from them.

#### INCREASE IN ASSESSES LARGER THAN INCOME ASSESSED

In the first income bracket of below Rs 5,000 which includes some assessees making less than exemption level, as there was no such limit for companies and persons taxable on their world income, the income assessed as a percentage of the total has been declining throughout the period, but after 1951-52 the decline becomes very rapid. This may be explained by the changes in the exemption limit. The decline in the total group-income between the extreme years of our study is approximately 51 per cent. In the second income bracket of Rs 5,000 — Rs

TABLE I  
ASSESSED INCOME AS PERCENTAGE OF NATIONAL INCOME

	1948-49	1949-50	1950-51	1951-52	1952-53	1953-54	1954-55
Total Assessed Income (Rs hundred crores)	5.7	5.9	5.9	7.8	7.1	7.8	7.6
National Income (Rs hundred crores)	86.7	90.3	95.5	99.9	98.3	104.8	96.2
Assessed Income as a Percentage of National Income	6.6	6.5	6.1	7.8	7.2	7.4	7.9

TABLE II  
DEVIATIONS FROM 1948-49 DISTRIBUTION OF INCOME ASSESSED FOR INCOME-TAX BY INCOME-GROUPS  
(1948-49 Actual Percentages)

Income Groups (Rs.)	1948-49	1949-50	1950-51	1951-52	1952-53	1953-54	1954-55	Percentage change in Income Assessed in 1954-55 over 1948-49
Up to 5,000	14.40	- 1.06	- 0.57	- 1.18	- 2.94	- 6.31	- 7.33	- 51
5,001- 10,000	14.08	- 0.22	+ 1.82	+ 5.97	+ 4.09	+ 4.05	+ 5.75	+ 41
10,001- 15,000	8.36	- 0.20	+ 2.48	+ 1.31	+ 0.82	+ 1.54	+ 2.66	+ 32
15,001- 25,000	8.90	- 0.07	+ 0.67	+ 0.59	+ 0.44	+ 1.85	+ 2.35	+ 26
25,001- 40,000	6.88	+ 0.20	+ 0.69	+ 0.27	+ 0.37	+ 1.41	+ 1.56	+ 23
40,001- 70,000	6.23	+ 0.21	+ 0.49	- 0.02	+ 0.55	+ 1.02	+ 0.62	+ 10
70,001-150,000	6.38	+ 0.03	+ 0.62	- 0.49	+ 0.31	- 0.14	- 0.42	- 7
150,000-200,000	1.99	- 0.07	+ 0.19	- 0.35	- 0.22	- 0.20	- 0.22	- 11
200,001 and over	32.77	+ 1.17	- 6.40	- 6.08	- 3.41	- 3.21	- 5.00	- 16

Sources :—Central Board of Revenue, All-India Income-tax Reports and Returns.

TABLE III  
DEVIATIONS FROM 1948-49 DISTRIBUTION OF INCOME-TAX ASSESSEES BY INCOME-GROUPS  
(1948-49 Actual Percentages)

Income Group (Rs)	1948-49	1949-50	1950-51	1951-52	1952-53	1953-54	1954-55	Percentage change in the Number of Assesseees in 1954-55 over 1948-49
Upto 5,000	56.19	- 3.44	- 6.07	- 12.37	- 14.47	- 25.06	- 29.65	- 53
5,001- 10,000	24.25	+ 1.99	+ 4.21	+ 10.79	+ 11.03	+ 15.48	+ 18.52	+ 76
10,001- 15,000	8.38	+ 0.46	+ 0.79	+ 1.32	+ 1.76	+ 4.17	+ 5.45	+ 65
15,001- 25,000	5.67	+ 0.41	+ 0.56	+ 0.36	+ 0.87	+ 3.01	+ 3.40	+ 10
25,001- 40,000	2.70	+ 0.31	+ 0.31	+ 0.08	+ 0.43	+ 1.43	+ 1.48	+ 55
40,001- 70,000	1.47	+ 0.18	+ 0.14	- 0.01	+ 0.30	+ 0.71	+ 0.58	+ 39
70,001-150,000	0.79	+ 0.06	+ 0.08	- 0.06	+ 0.13	+ 0.20	+ 0.15	+ 19
150,001-200,000	0.14	+ 0.01	+ 0.02	- 0.02	+ 0.00	+ 0.02	+ 0.02	+ 14
200,001 and over	0.41	+ 0.03	- 0.02	- 0.08	- 0.02	+ 0.04	+ 0.04	+ 10

Sources:—Central Board of Revenue, All India Income-tax Reports and Returns.

TABLE IV  
INDEX NUMBERS OF INCOME ASSESSED, ACTUAL YIELD, AND HYPOTHETICAL YIELDS OF INCOME-TAX AND SUPER-TAX  
1948-49 TO 1954-55  
(Base Year: 1948-49 = 100)

Year	National Income	Income Assessed		Actual Yield		Hypothetical Yield					
		Income-tax	Super-tax	Income-tax	Super-tax	1948-49 rates		1954-55 rates		TEC rates	
						Income-tax	Super-tax	Income-tax	Super-tax	Income-tax	Super-tax
1948-49	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
1949-50	104.16	102.68	108.52	110.40	111.56	104.55	106.23	104.83	106.34	104.28	107.57
1950-51	110.17	102.51	95.86	98.50	126.20	97.48	92.80	96.71	92.63	92.93	88.83
1951-52	115.26	137.01	123.17	121.30	166.03	127.16	118.30	125.27	118.27	122.47	115.94
1952-53	113.53	124.44	120.75	119.40	177.61	121.59	116.85	121.01	116.96	121.31	114.28
1953-54	121.16	136.73	128.26	118.44	160.32	137.07	125.83	136.10	125.92	134.44	126.33
1954-55	111.10	132.95	115.50	108.92	152.39	130.62	121.38	128.54	116.46	130.00	115.97



**The dress of the people . . .**

Costumes, whether they are for occasions or for daily wear vary all over the world. Climatic conditions, natural materials available, religious demands and individual ingenuity are some of the factors that determine the dress of a people.

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*Women from different parts of the country wear the saree in their own special way. The pretty Maharashtrian women of Western India for instance, wear a nine yard saree, like a dhoti, taken between the legs and tucked in at the back.*

**SHORROCK, Ahmedabad. NEW SHORROCK, Nadiad. STANDARD, Bombay. NEW CHINA, Bombay. SASSOON, Bombay. NEW UNION, Bombay. SURAT COTTON, Surat and Dewas. MAFATLAL FINE, Navsari. GAGALBHAI JUTE, Calcutta.**

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10,000, except for the year 1949-50, there is a consistent rise in the percentage of income assessed to the total. The increase in the six years has been 41 per cent. Bracts three to six comprising incomes ranging from Rs 10,000 — Rs 70,000 indicate a similar pattern. However, the increase in the income assessed in these various groups steadily diminishes from 32 per cent in the third to 10 per cent in the sixth group. The last three indicate a decline from 7 per cent in the seventh to 16 per cent in the ninth.

We shall next analyse the changing pattern of the number of assesseees in the same period. The number of assesseees in the first income bracket shows a decline by about 53 per cent from 1948-49 to 1954-55, whereas during the same period the income assessed decreased by 51 per cent. It is just possible that incomes in this group have increased, but due to higher exemption limit have not been reflected in the tables. Groups two to five show that the number of assesseees has increased over the period anywhere between 76 per cent in the second to 10 per cent in the fourth. Similarly income brackets six to eight indicate an increase of between 39 per cent in the sixth to 14 per cent in the eighth. The increase has been a steady one except for the year 1951-52. The last group behaves haphazardly, the percentages declining from 1950-51 to 1952-53. Nevertheless the increase in the number of assesseees in 1954-55 over 1948-49 is 10 per cent. Almost in all groups, there have been larger increases in the number of assesseees than the total incomes assessed.

In conclusion we may observe that in terms of percentages of assessed income, the lower income groups clearly show a trend of growth, the middle income groups a tendency to increase slower, while the higher ones show a decrease amounting to 16 per cent at the highest rung. The numbers of assesseees have increased in all the income groups but the increase slows down as you go up.

#### INCOME ASSESSED AND NATIONAL INCOME

Changes in the degree of progression are important in determining tax flexibility. Since we selected 1948-49, 1954-55 and the TEC rates as the bases for calculation it is only the changes in tax formulae in these

periods that matter. We have already seen the change in exemption level between the first two periods. The Taxation Enquiry Commission recommended two different exemption levels for the married and the unmarried, and a lowering of the taxable limit to Rs 3,000. It has, however, not been possible to recalculate the assessable income for other years according to these different rules; these have been taken to be the same as according to the rules in force in the year in question. For convenience of calculation, the average effective rates on various income groups in 1948-49 and 1954-55 (excluding surcharges) have been taken to be the rates in force, in both these years. The Commission suggest four alternative rate structures—two of them in terms of percentages and two in terms of so many annas in the rupee. We have arbitrarily selected the second rate structure for our purpose, (Report of the Taxation Enquiry Commission 1953-54, Vol II, p 140, illustration II) and calculated the likely revenues each year on the basis of this structure.

Since the degree of sensitivity is a ratio between the percentage change in tax yield and that in the national income all the aggregate figures are presented in the form of index numbers. Table IV gives the indices of national income, incomes assessed, actual tax yields, and hypothetical tax yields at the three rates, both for income and super-taxes. The income assessed shows an upward trend with increase in national income but assessed income did not reach its maximum in 1953-54, when the national income was the highest — 21 per cent above 1948-49. Income liable to super-tax behaved much better; it reached its maximum in 1953-54. The income and super-tax yields at 1948-49, 1954-55 and the TEC rates all reach their maximum in 1953-54. The percentage change in the hypothetical income-tax yield at 1948-49 rates is 37.07, at 1954-55 rates it is 36.10 and at the rates suggested by the Commission it is 34.44. The sensitivities at these different rates are 1.75, 1.70 and 1.62 respectively. (All sensitivity indices refer to Table XIV.I) The sensitivities of super-tax show a remarkable constancy, viz, 1.22 at 1948-49 and 1954-55 rates and 1.25 at TEC rate. The sensitivity of this tax should have shown a higher

value than that of income-tax, but there has been a shift of taxable incomes in favour of the middle income groups. The slightly higher super-tax sensitivity at the TEC rates is probably due to much steeper tax rates compared to the previous period as well as lower exemption level.

#### (b) COMPANY TAXATION

Since the behaviour of company incomes and the tax structure to which companies are subject are very different from personal incomes, it has been thought advisable to separately calculate the sensitivity of company taxation, which has already been included in the above. Since companies were taxed proportionately with hardly an exemption level, the rates would only lead to a sensitivity of unity. But company incomes, being entrepreneurial incomes, have shown a great degree of change. Their income assessed to income-tax reached the highest of 130 in 1953-54 with regard to income-tax and 131 with regard to super-tax. (Table V). The sensitivity of income-tax on companies changes from 1.41 at 1948-49 rates to 1.48 at 1954-55 rates and to 1.52 at TEC rates; that of super-tax on companies varies but only slightly, being 1.49 both at 1918-19 and TEC rates and 1.46 at 1951-55 rates.

Tables VI and VII give the index numbers of income assessed, actual yield, and hypothetical yields of direct taxes in general and direct taxes on companies. The sensitivities on the former are 1.57, 1.49, and 1.40 and on the latter, 1.42, 1.47 and 1.48 at 1948-49, 1954-55 and the TEC rates. The pattern of time lags in all the direct taxes taken separately and collectively is the same.

#### (e) EXPORT DUTIES

The basis of commodity taxation may be either the value or the quantity. Changes in price level will naturally affect the former directly and the latter only incidentally. In either case the basis will have different degrees of income elasticity depending on the nature of the commodity. Secular trends in demand are also likely to affect the volume of demand and it will be impossible to distinguish them from income changes. For analytical purposes, it may be useful to classify commodities into two : finished

TABLE V

INDEX NUMBERS OF INCOME ASSESSED, ACTUAL YIELD AND HYPOTHETICAL YIELDS OF INCOME-TAX AND SUPER-TAX ON COMPANIES  
(Base: 1948-49 = 100)

Year	Income Assessed		Actual Yield		Hypothetical Yields					
	Income-tax	Super-tax	Income-tax	Super-tax	1948-49 rates		1954-55 rates		TEC rates	
					Income-tax	Super-tax	Income-tax	Super-tax	Income-tax	Super-tax
1948-49	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
1949-50	109.52	109.91	114.58	121.10	109.56	109.93	100.57	109.88	111.53	110.98
1950-51	86.10	87.00	84.57	139.33	86.06	86.75	86.14	86.30	87.70	84.57
1951-52	118.00	119.05	104.36	197.55	117.93	118.93	118.05	118.64	117.89	117.68
1952-53	118.22	119.32	112.05	227.84	118.21	119.16	118.34	118.86	118.12	117.35
1953-54	129.79	131.14	118.43	187.58	129.82	131.07	131.36	130.94	132.20	131.05
1954-55	116.56	117.77	104.12	174.52	116.56	117.54	116.60	117.43	116.39	117.08

TABLE VI

INDEX NUMBERS OF INCOME ASSESSED, ACTUAL YIELD AND HYPOTHETICAL YIELDS OF DIRECT TAXES (GENERAL)  
(Base: 1948-49 = 100)

Year	National Income	Income Assessed	Actual Yield	Hypothetical Yields		
				1948-49 Rates	1954-55 Rates	TEC Rates
				1948-49	100.00	100.00
1949-50	104.16	104.81	110.78	105.11	105.50	106.21
1950-51	110.17	100.09	107.68	95.93	94.92	90.52
1951-52	115.26	131.98	136.11	124.22	122.20	118.63
1952-53	113.53	123.09	138.68	120.02	119.23	117.18
1953-54	121.16	133.65	132.31	133.36	131.63	129.71
1954-55	111.10	127.97	123.32	127.57	123.29	121.76

TABLE VII

INDEX NUMBERS OF INCOME ASSESSED, ACTUAL YIELD AND HYPOTHETICAL YIELDS OF DIRECT TAXES ON COMPANIES  
(Base: 1948-49 = 100)

Year	National Income	Income Assessed	Actual Yield	Hypothetical Yields		
				1948-49 Rates	1954-55 Rates	TEC Rates
				1948-49	100.00	100.00
1949-50	104.16	109.72	116.64	109.68	109.71	111.16
1950-51	110.17	86.55	101.83	86.28	86.21	85.58
1951-52	115.26	118.53	133.74	118.25	118.31	117.60
1952-53	113.53	118.77	148.55	118.51	118.57	117.60
1953-54	121.16	130.46	140.23	130.21	131.17	131.42
1954-55	111.10	117.17	125.30	116.87	116.97	116.86

TABLE VIII

INDEX NUMBERS OF ESTIMATED EXPORT DUTIES (GROUPWISE) AT 1948-49 AND 1954-55 RATES  
(Base: 1948-49 = 100)

Year	National Income	1948-49 Rates				1954-55 Rates			
		Group I	Group II	Group III	Total	Group I	Group II	Group III	Total
		1948-49	100.00	100.00	100.00	100.00	100.00	100.00	100.00
1949-50	104.16	105.92	153.35	125.43	121.66	129.30	146.30	92.54	119.66
1950-51	110.17	116.32	178.55	184.63	154.48	150.97	185.20	95.84	138.62
1951-52	115.26	136.08	194.25	167.19	158.33	175.32	164.59	179.74	174.39
1952-53	113.53	116.78	257.38	121.48	141.66	142.71	216.00	93.56	142.02
1953-54	121.16	147.97	174.46	117.46	139.79	165.84	127.88	84.54	126.30
1954-55	111.16	214.42	161.85	122.48	168.15	216.94	153.56	93.58	155.55

commodities or the raw-materials entering in their manufacture, which are eventually purchased by the final consumers, and investment goods and such raw-materials as are required to produce the goods of final consumption. Since the marginal propensity to consume is likely to decrease with a rise in income, commodity taxes on the former are likely to exhibit a comparatively lower sensitivity than in the latter.

It is very difficult to establish any causal relations between changes in national income and productivity of export duties, because the latter have a manifold character, and a relationship between income and the quantity and value of exports is difficult to prove. Export duties were levied for four purposes — duties primarily for revenue purpose, which formed between 13.7 per cent to 46.1 per cent of the total revenue from export duties collected between 1948-49 to 1953-54, duties for protective purpose which ranged between 10.9 per cent and 21.1 per cent during the same period, duties to remove price disparities, which varied from 0.4 per cent to 3.4 per cent and anti-inflationary duties which fluctuated between 39.7 per cent to 74.6 per cent. (*Report*, Vol II. pp 279-280.) The sensitivity of export duties with so many purposes and varying ranges does not have much significance.

We have computed the average effective rates for the years 1948-49 and 1954-55 by dividing the total export duties collected in each of the items, by their corresponding total value of exports. (Export duties collected in each fiscal year and the value of exports commodity-wise are obtained from *Statistical Abstract, India*, 1955-56, Tables 81, pp 315-16, and 253 pp 811-15.) 'Land customs' presents some complications. Firstly, we get only aggregates and no commodity-wise breakdowns are available. With respect to some countries like Pakistan and Burma commodity group classifications are presented for revenue from all exports by sea or by land, but these are not exclusively land customs, and there does not seem to be any way by which the land customs element could be deduced from the totals available. Further, although the totals of land customs collected are published, the corresponding

values of exports are lacking and hence the effective rate is practically speaking, incalculable. Items like 'Other agricultural produce', and miscellaneous present difficulties because we are not able to locate exactly the commodities included under this generic title. Hence despite the fact that these approximately form between 5—15 per cent of the total export duties collected between 1948-49 to 1954-55, we are constrained to overlook them in this study. Except saying that duties for revenue purpose and anti-inflationary measures are likely to play a momentous role during the period of the Second Plan, the Commission could not, naturally, recommend any rates-schedule for them, so that it becomes difficult for us to compute their sensitivity at the TEC rates. We have presumed that the Commission's proposals would make no change to the sensitivity of the export duties on the whole as at 1945-55 rates.

#### GROUP SENSITIVITIES

Analytical indicators are of little consequence in a situation in which the various relevant propensities are not allowed to operate because of different kinds of controls and trade<sup>1</sup> restrictions. It is felt that under these circumstances sensitivities of individual items of either export or import duties will be of less significance than if meaningful groupings are adopted. It was, therefore, decided to present the sensitivity data with respect to import and export duties in terms of broad groupings, three in exports and live in imports, as below:

#### EXPORTS:

- Group I : Food and Beverages like Tea. Black Pepper etc.
- Group II : Raw-materials Manganese, Oils, Wool, Oilseeds, Cotton, Sute and Mica.
- Group III : Manufactures like Jute and Cotton Textiles and Yarn.

#### IMPORTS:

- Group I : Food, Beverages, Spices. Preserved Fruits and Tobacco.
- Group II : Raw materials—cotton, betelnuts and silk.
- Group III : Manufactured articles like Electric Ap-

paratus, Iron & Steel, Metals, Woodpulp and Stationery, Artificial Silk Yarn, Textile Fabrics, Cinema and Photographic Films, Cement, Silk-yarn, Toys and Sports Goods, Hurricane Lanterns etc.

Group IV : Machinery and Transport Equipment like Motor-cars. Cycles, Scooters etc. Machinery, Railways" Plant and Rolling Stock. Pneumatic Rubber Tyres and Tubes.

Group V : Mineral Oils, Fuels, Chemicals, Kerosene Oil and Motor Spirit. Oils, Lubricants, Dyes and Heavy Chemicals.

At the 1918-49 rates the sensitivity index of the three export group is given in Table XIV. Group I shows a high sensitivity of as much as 5.41. The maximum index reached is 214 in 1954-55. (For index numbers of estimated export duties (groupwise) at both the rates see Table VIII.) The behaviour of Group II namely raw materials indicates a higher sensitivity, although the index reached its highest of 257 in 1952-53. Manufactured articles show a sensitivity of 4.00: 1950-51 shows the highest index of 185. However, when the total export duties are considered it shows a more moderate susceptibility, the maximum index of 168 being achieved in 1954-55. A similar pattern of sensitivities emerges with respect to 1954-55 rates except that Group II shows less sensitivity than at the 1948-49 rate and that the maximum yield from export duties is reached in 1951-52. The second highest is, however, in 1954-55.

The behaviour of the export duties requires some explanation. It should be borne in mind that in this case outside forces have played a considerable part. The Korean war and the Indo-China war which followed on its heels seem to have boosted our export income much beyond the rise in the national income.

#### (d) IMPORT DUTIES

Now we come to import duties which are the most important of

the Union indirect taxes. The data here are also taken from the *Statistical Abstract, India* 1953-54 and 1955-56, viz. Tables 81 and 252, pp 324-25 and 801-10 respectively.

Because of the large number of import duties to which commodities are subject and sometimes due to their composite and alternate character, a number of simplifying devices had to be resorted to. We divided the sixty two import dutiable items into twenty seven commodity groups. Secondly, we regarded the average effective rates on these groups (import duties of each of the 27 groups as a percentage of the corresponding value of their imports) as duties in force. Thirdly, we omitted a few commodity duties from our computation which aggregatively account for 3 per cent of the total tariff. The distinction between protective and revenue duties which the official publication adheres to has not been observed and although the former are autonomous to changes in the national income these have been included here. This was unavoidable because, despite the fact that the amounts collected under these two categories are available separately, in publishing the quantum and/or value of the corresponding imports this dichotomy is not maintained.

The next question was the consideration of the rates suggested by the Commission. The Commission are of the opinion that import items which yielded considerable revenue are slowly declining in importance because of the changing pattern of import trade. Imports of industrial requirements have risen from 41 per cent in 1920-21 to 50 per cent in 1931-32, to 54 per cent in 1938-39, and to 68 per cent in 1953-54. (*Report*, 1953-54, p 255.)

As the level of duties on these items in a developing economy must necessarily be lower than on finished products, the increased share of industrial requirements in the import trade means a reduction in total import duties collected as a percentage of the value of the imports with any given import tariff schedule. The Commission make no attempt, implicit or explicit, to suggest an alternate rate schedule. In fact they are strongly of the opinion that the loss in import duties should at least be counter-balanced by levying excise duties on those items which were formerly imported but now indigenously produced.

#### RELATIVELY MODERATE

As compared to export duties the sensitivities of import duties seem to be more moderate and submit themselves readily to explanation. The pattern of their behaviour is similar at both the rates. The negative sensitivity at both the rates in Group I (Table No VI) is due to the fact that imports of certain commodities like sugar, various kinds of wines, spirits and liquors, tea and tobacco declined during the period of our study either because of improved production at home or the policy of prohibition followed by some State Governments.

Group II shows a sensitivity of 4.05 and 3.82 (where two figures are given together the former refers to 1948-49 rates and the latter to 1954-55 rates) which is considerably high. Considering that Group IV which is similar, (being equally farther from final consumption,) has only 1.96 and 1.70, this is rather intriguing. One explanation that strikes us is the poor harvest specially of cotton which necessitat-

ed increased imports. The indices of this Group in Table IX clearly show a spurt in the estimated as well as actual duties realised in the year 1951-52. The hypothetical yields from this group at both the rates in 1954-55 and at 1948-49 rates in 1953-54 also show a decline compared with 1948-49.

The low sensitivity of 0.54 and 0.83 of Group III clearly bears out the impact of Government's import policy. Increased indigenous production of commodities like wood-pulp and stationery, cement etc may also be partly responsible for this phenomenon. Except for 1951-52, the hypothetical yields in all other years at both the rates are less than in 1948-49.

For a planned economy like ours where large consignments of machinery and transport equipment (i.e., Group IV) are imported, a sensitivity of 1.96 at 1948-49 rates and 1.70 at 1954-55 rates does not seem to be particularly high. And here also the highest yield is reached in 1951-52. From the same point of view, however, the sensitivity of 6.85 and 5.37 for Group V, the maximum being reached in 1953-54 and 1954-55 respectively, appears inordinately high. It may be noted that the maximum index is reached in different years for different groups—in 1950-51 for Group I, in 1951-52 for Groups II, III and IV and all the groups together, and in 1953-54 for Group V. At 1954-55 rates the only difference is regarding the timing for Group V where maximum index is reached in 1954-55. The sensitivity for import duties as a whole has evened out to give us 1.84 and 1.51 at the two above mentioned rates.

(To be concluded)

TABLE IX  
INDEX NUMBERS OF ESTIMATED IMPORT DUTIES (GROUPWISE) AT 1948-49 AND 1954-55 RATES  
(Base: 1948-49 = 100)

Year	1948-49 Rates						1954-55 Rates					
	Group 1	Group 2	Group 3	Group 4	Group 5	Total	Group 1	Group 2	Group 3	Group 4	Group 5	Total
1948-49	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
1949-50	65.87	87.33	97.14	118.67	149.36	107.86	65.38	90.24	90.25	116.28	128.15	100.23
1950-51	78.40	146.75	81.97	83.02	157.28	104.83	79.01	140.00	82.92	82.41	136.61	101.76
1951-52	70.26	185.68	111.48	141.57	200.57	138.77	77.45	180.91	117.82	136.05	178.46	132.04
1952-53	55.03	113.82	84.66	106.70	211.27	116.41	57.86	124.49	70.10	111.30	183.09	109.55
1953-54	41.02	93.77	89.99	97.31	244.89	118.88	50.14	114.62	77.73	96.10	213.44	113.35
1954-55	47.00	85.45	98.82	121.17	242.57	126.70	53.61	85.82	74.06	125.13	213.60	115.25