

Government Finances
Under Alternative Monetary Arrangements
The OECS and Barbados

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November 1993

FIRST DRAFT

This paper reports an exploratory analysis of government revenue collection in the Eastern Caribbean in the 1980's. It seeks to reveal systematic differences in tax policies by making a comparison of data for the member states of the OECS and Barbados. The study exploits a recently compiled dataset which has been derived from the outturn figures published in the different countries budget estimates. Whilst the immediate aims of the paper are, by design, modest and largely descriptive, it is intended in part to serve as a background and prelude to a more comprehensive account of fiscal developments in the region.

The first part of the paper examines changes in the ratio of taxes to GDP, comparing first the OECS (as an aggregate) to Barbados, and then the member countries of the OECS to each other. The second part explores, rather more summarily, changes in the composition of tax collections, again making comparisons between the OECS and Barbados, and then between OECS states. Some concluding remarks and a data Appendix complete the paper. For convenience all the Charts have been collected at the end of the paper.

1. Ratio of Taxes to GDP

(i) OECS and Barbados

(a) Total Taxes

Although the value of OECS tax collections were smaller than those of Barbados throughout the decade, they grew more rapidly. However, as might be anticipated, both of these observations have much to do with the relative size and growth rates of nominal GDP: OECS GDP was the smaller and the faster growing. A more useful comparison results if we scale the tax data by nominal GDP, and the result is recorded in Chart 1. Evidently, both total tax ratios were remarkably similar for most of the decade. Indeed their averages over the years 1980 to 1989 were equal, at 0.26.

In addition, you will notice that the OECS ratio displayed a remarkable degree of constancy. It never rose more than 2 per cent above or fell more than 2 per cent below its average value (the coefficient of variation of the ratio was 1.5 per cent). By contrast, not only is there generally more variation in the ratio for Barbados, but it jumped markedly towards the end of the decade. In 1987 it stood at 0.26 (its decade average). It then increased by about 10 per cent in 1988, and again by 10 per cent in 1989, ending the decade at 0.32.

(b) Direct and Indirect Taxes

From Chart 2 we can see that despite the overall similarity in the ratio of total tax collections to GDP, the structure of taxation in the OECS differed markedly from that in Barbados.

Throughout the decade, the OECS indirect tax ratio was higher than either of the ratios for Barbados, whilst the OECS direct tax ratio was lower than either of the Barbados ratios. Notice too, that in the first half of the decade all four ratios were relatively stable. Up to 1984 the OECS ratios averaged 0.182 for indirect taxes and 0.075 for direct taxes, whilst for Barbados the averages of the corresponding ratios were 0.126 and 0.122.

After 1984 though the ratios start to change with both indirect tax ratios began rising, and after 1985 both direct tax ratios began falling. Apparently then the continuing stability in both total tax ratios was masking these offsetting trends. For the OECS this divergent pattern continued to the end of the decade with the indirect tax to GDP ratio up to about 0.20 and the direct tax to GDP ratio down to around 0.06. What had been a broadly similar pattern for Barbados was interrupted in 1988 by a jump in the direct tax ratio (this being the proximate cause of the 1988 jump in overall ratio noted above). It moved sharply up, more than offsetting the post-1985 decline. As a result, by the end of the decade, Barbados' direct tax ratio, at 0.132, was a little higher than it had been in 1980. Notice too that the systematic rise in the indirect tax ratio which began around 1984, had resulted by 1989 in a ratio of 0.183, larger by roughly half than it was in 1980.

(c) Indirect Taxes on Domestic and on International Transactions

If we now separate indirect taxes on domestic transactions from those on international transactions we can see, from Chart 3, that the proximate source of the upward movement in the ratio of indirect tax collections to GDP for both was taxes on domestic transactions. For Barbados, though, taxes on international transactions contributed too.

If we look more closely at the domestic tax ratios it is evident that although the ratios differ in size, with the OECS about 0.03 above Barbados, the difference between them remained pretty constant. The two series moved more or less in step. In both the OECS and Barbados the sustained rise in the ratio began after 1985, moving up by about 0.03 in the second half of the decade.

There is more of a contrast with respect to taxes on international transactions, at least up until 1984. The OECS ratio remained almost unchanged. In fact it never varied more than 0.004 from its decade average of 0.081. Whilst the Barbados ratio was, too, relatively constant moving roughly parallel to the OECS ratio about 0.025 below, it did move up quite sharply after 1984, from about 0.06 to about 0.08 in 1985. Notice though that the effect of this rise was to bring it to the OECS level and that, from 1985 onwards, the two international tax ratios moved very closely together.

Overall then, the movements in the two components of indirect taxes were remarkably similar.

(ii) OECS Member States

(a) Total Taxes

The member states of the OECS differ so markedly in size (measured by nominal GDP, the largest is about five times the size of the smallest) so again more meaningful comparisons can be made by using the ratios of tax collections to GDP. Having scaled the tax data in this way, we can see from Charts 4 and 5 that the countries can be separated fairly easily into two pretty distinct categories, which we can refer to (only somewhat misleadingly) as 'high' and 'low' tax groups. High tax countries are generally above the OECS average, low tax countries are generally below. Whilst group members vary relative to one another, only one country, St Kitts, makes a clear-cut crossing of the average line during the decade, and the special circumstances there suggest that it most appropriately classified as 'low tax'¹. The high tax group are: Dominica, Grenada, St Vincent; and the low tax group: Antigua, Montserrat, St Kitts, St Lucia². It is also evident that each group remains within a relatively narrow band around the average. The high tax group are rarely more than 0.05 above the average and the low tax group rarely more than 0.05 below. Moreover, with the possible exception of St Lucia, none of the ratios appear to exhibit any systematic trend relative to the OECS average.

Although it is not a matter which will be pursued here, it is interesting to notice that the high tax group are all Windward Islands, and that all the Leewards are in the low tax group. Indeed the only country which does not fit appropriately into this mapping from geographical classification to tax grouping is St Lucia. The very country, and this is of course, a more speculative observation, where the more recent behaviour of the tax ratio suggests it might cross from one group to another.

(b) Direct Tax Collections

Let us now turn to direct tax collections. The ratios are recorded on Charts 6 and 7 for the high

¹ The extraordinarily high values of St Kitts' tax ratio in 1980 and 1981 were due to exceptional receipts from a levy on sugar production (as distinct from its export duty on sugar). Sugar prices rose by about one third between 1979 and 1980 and then declined by roughly the same amount between 1981 and 1982. The receipts from the levy, as a ratio to GDP, were 0.113 in 1980 and 0.081 in 1981. If these amounts are deducted from the total tax ratios for those years the ratios fall to 0.198 and 0.201, figures which are very close to the average ratio over the rest of the decade which was .207.

² It will be noted that St Lucia also crossed the average line in 1988 and stayed above in 1989, and ended the decade with a ratio about 0.03 above the OECS average. Whether or not this represents a permanent transition from one group to the other remains to be seen.

and low tax groups respectively. Perhaps the most immediately striking feature revealed is the impact of the 1986 "tax reform" in Grenada, where the ratio tumbled from 0.09 to around 0.02. Leaving that dramatic development to one side though, of broader significance is the evidence that these two Charts provide about the contribution of direct taxes to overall tax revenue. Apparently it is not differential rates of direct taxation that are the proximate source of the distinctive, high tax/low tax, pattern in the overall ratios. For most of the decade only Antigua and St Kitts are below the OECS average, but they are very substantially below. The rest of the countries are all above. It is also worth noting that all of the countries (of course, most spectacularly Grenada) contributed to the post-1985 decline in OECS ratio which was noticed earlier.

(c) Indirect Tax Collections

As might have been inferred it is in fact with respect to indirect taxation that the OECS states differ most markedly. We can see from Charts 8 and 9 that the indirect tax ratios for high tax countries are invariably above the OECS average, while those of low tax countries are generally below. What is more the ranking, at least within the high tax group is generally pretty stable: the ratio for Grenada is highest followed by Dominica and St Vincent. In the low tax group the position is a little more blurred. Montserrat is most often lowest, Antigua usually highest, with St Lucia and St Kitts (after it 'crossed the line' in 1983) fitting in between. Common to all (though to varying extents) is the upward swing after 1985 which was apparent in the OECS average.

(d) Indirect Taxes on Domestic Transactions

You will recall that for the OECS as a whole the ratio of indirect taxes on domestic transactions to GDP was relatively constant until the middle of the decade at around 0.10, and then moved up by about 0.03. Looking now at the individual country data presented in Charts 10 and 11, we can see that although the underlying picture is a little more complex broadly the same pattern appears. Both for the high tax countries (which are always above the OECS average) and for the low tax countries (which are usually below) the ratio was generally higher at the end of the decade than it was at its beginning or middle.

There are some further features of the data which stand out. It appears that whilst the ratios within the two tax groups have generally been pretty similar (the intra-group range generally less than 0.05) there was virtually no convergence towards the OECS average. At the beginning of the decade the average of the high tax group was 0.114, the low tax average (excluding, for obvious reasons St Kitts) was 0.067, so the high tax ratio was about 70 per cent larger. At the end of the decade the high tax average was 0.177, the low tax 0.100, so the average high tax ratio was by then 77 per cent above. So each group maintained, over the decade, roughly the same position relative to the OECS average. Indeed, it is from these differences that the high tax/low tax classification derives.

Notice too that rankings within groups too, remained fairly stable over the decade. Of the high tax countries Grenada was generally the highest (the reform notwithstanding), then Dominica, with St Vincent the lowest, whilst in the low tax group, St Lucia was usually the lowest, then Montserrat and St Kitts in the middle, with Antigua generally closest to the OECS average.

(e) Indirect Taxes on International Transactions

We can now turn to the last of our categories, taxes on international transactions. Here, as we know, the overall OECS average remained virtually unchanged throughout the decade at around 0.08. As we can see though from Charts 12 and 13 there was rather more variation at the individual country level. Moreover, the high tax/low tax distinction seems to break down. Two of the high tax countries are always below the OECS average (and the third is close to it from 1986 onwards), whilst one of the low tax countries is always above. Indeed, St Lucia, a low tax country, has the highest average ratio and Dominica, a high tax country, the lowest. Generalisations are, then, rather hard to come by although it should be noted that the scale on these charts is roughly half those on Charts 10 and 11 so the pattern of variation is a little exaggerated here relative to the movements in domestic-based taxes.

Two countries are though worth special mention. The effect of the 1985 changes in Grenada's tax regime had an impact on the taxation of international transactions. The ratio dropped from about 0.02 above to the OECS average and stayed down. Although the timing was rather different, the St Vincent ratio moved down by about the same amount over the decade.

2. The Composition of Taxation

(i) OECS and Barbados

Although the overall tax ratios for Barbados and the OECS were fairly similar, the composition of tax collections was as we know rather different and has changed differentially over the decade. Table 1 summarises the main features.

Table 1

Barbados and OECS
Composition of Tax Collections, 1980 and 1989
Share of Total Tax Collections, %

	1980	1989	Change
Barbados			
Direct	49	42	-7
Indirect	51	58	+7
of which: Domestic	25	32	+7
International	26	26	0
OECS			
Direct	28	22	-6
Indirect	72	78	+6
of which: Domestic	39	49	+10
International	34	30	-4

Source: see Appendix for data

Very broadly, direct taxes contributed around a quarter of all tax collections for the OECS and about half for Barbados, and both these shares declined by about the same amount. So for both there was a similar sized shift to indirect taxation over the decade. Moreover, in both the OECS and Barbados this shift was concentrated in the taxation of domestic transactions. The shift was larger in the case of the OECS since the share of international taxation actually contracted, whilst in Barbados the international share remained unchanged. These differences in respect of the balance between domestic and international are though more apparent than real when one takes into account the disparity in initial shares. If the domestic and international shares in indirect taxation are computed for 1980 (49 per cent for Barbados, 53 per cent for the OECS) and then again for 1989 (55 per cent for Barbados and 62 per cent for the OECS) it is evident that the changes recorded in the Table represent essentially parallel movements, disguised by the more fundamental difference in the importance of direct taxation.

(ii) The OECS Member States

Now we know that the OECS picture is a complex one. Tables 2 and 3 record the data on composition, Table 2 the Windwards, Table 3 the Leewards.

Notice first that there seem to be two distinct tax regimes. Looking at the 1980 data we can see for all of the Windwards plus Montserrat, direct taxes provided about a third of collections. We might call this the "old" regime. Under the other, "new", regime, operating just in Antigua and St Kitts, the direct tax share is closer to one sixth. Moreover, we can see from the 1989 data that the effect of the Grenada reform was to move it from one regime to another, from the old to the new. Moreover, whilst most countries shared in the overall OECS shift from direct to indirect taxation, this was much less important for the new regime countries. Indeed, for St Kitts there was a small rise in the direct tax share, whilst for Antigua there was no change. Perhaps this might have been anticipated, if the share of direct taxes is already low it might be difficult to reduce it further.

The effect of initial conditions also seems to be important in interpreting changes in the shares of the two categories of indirect taxes. For the OECS as a whole we know that the share of domestic-based taxes rose and the share of international-based taxes fell, but you will notice that the biggest increases in the domestic shares occurred in countries where its initial share was lower. For countries where the initial share was close to 50 per cent (Antigua, Dominica, St Kitts) the increase was relatively small and vice versa. What we have then is a degree of convergence in the share of indirect taxation. Most countries ended the decade in the 50 to 60 per cent range, which in turn implied that 60 to 70 per cent of indirect tax receipts were generated by the taxation of international transactions. St Lucia was markedly lower, but it was the country which, at the beginning of the decade, had a composition of taxation most highly skewed towards the taxation of international transactions.

Table 2

OECS: Windward Islands
Composition of Tax Collections, 1980 and 1989
Share of Total Tax Collections, %

	1980	1989	Change
Dominica			
Direct	34	25	-9
Indirect	67	75	+9
of which: Domestic	49	55	+6
International	17	20	+3
Grenada			
Direct	30	12	-18
Indirect	70	89	+19
of which: Domestic	38	62	+24
International	33	27	-6
St Lucia			
Direct	35	28	-7
Indirect	65	72	+7
of which: Domestic	23	36	+13
International	42	36	-6
St Vincent			
Direct	32	27	-5
Indirect	68	73	+5
of which: Domestic	38	56	+18
International	30	17	-13

Note: totals may not add due to rounding

Source: see Appendix for data.

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	1980	1989	Change
Dominica			
Direct	34	25	-9
Indirect	67	75	+9
of which: Domestic	49	55	+6
International	17	20	+3
Grenada			
Direct	30	12	-18
Indirect	70	89	+19
of which: Domestic	38	62	+24
International	33	27	-6
St Lucia			
Direct	35	28	-7
Indirect	65	72	+7
of which: Domestic	23	36	+13
International	42	36	-6
St Vincent			
Direct	32	27	-5
Indirect	68	73	+5
of which: Domestic	38	56	+18
International	30	17	-13

Note: totals may not add due to rounding

Source: see Appendix for data.

Some Concluding Remarks

Let us deal first with the question posed by implication in the title of this paper: are there differences between the OECS and Barbados in the pattern of tax collections? Like all the best questions the answer here would seem to be both yes and no. Yes, there are differences in the composition of tax collections. No, the overall ratios of tax collections to GDP are very similar so are some of the patterns of change.

In the discussion of taxation in the OECS, a number of different classificatory schemes have been introduced in this paper: high tax/low tax; new regime/old regime; Windwards/Leewards. So it might be appropriate to conclude by summarising how they fit together.

Table 4

OECS Taxation Alternative Classification Criteria

	(1)	(2)	(3)
Antigua	L	N	L
Dominica	H	O	W
Grenada	H	O/N/O?	W
Montserrat	L	O	L
St Kitts	L	N	L
St Lucia	L/H	O	W
St Vincent	H	O	W

Key: column (1), high (H) or low (L) tax grouping, based on tax to GDP ratio; column (2), new (N) or old (O) tax regime, based on share of direct taxes in total taxes; column (3), geography, Leewards (L) or Windwards (W).

There is a fairly clear relationship between the high tax/low tax distinction and the geographic classification. All the high tax countries are in the Windwards, and all the Windwards are high tax with the exception of St Lucia whose classification seems on the verge of changing.

The position in respect of tax regime is less clear-cut. Both the countries with firmly established new regimes (Antigua and St Kitts) are low tax and, of course, in the Leewards. The introduction of a new style regime in Grenada has not led to a permanent reduction in its tax to GDP ratio. Although the tax/GDP ratio fell immediately after the reform by 1989 it had drifted back, pretty much, to where it was in 1980 (it is still however much lower than it was in the years immediately preceding the regime change). Moreover, there have been more recent suggestions that income tax may be re-introduced. Montserrat is a significant outlier, whilst it is a low tax country, it has an old style regime.

The interpretation of this pattern of relationships is at this stage rather speculative. Any other consideration aside it would be based on just a decade of data. It is nevertheless suggestive. Does the geographical grouping, which seems of itself to have some explanatory power, relate more fundamentally to differences in economic structure? Are these in turn connected with the size of the government sector? Needless to say, such considerations may have a significant bearing on the design of new, sustainable, tax regimes.

APPENDIX

The data on which this study was based is drawn from a forthcoming publication: M.K. Anyadike-Danes and B.M. Francis, *Statistics of Government Revenue and Expenditure. OECS and Barbados. 1977 - 1990. Current Revenue and Expenditure*. The statistics reported there are derived (with the exception of 1980 and 1981 for Grenada) from published budget estimates. The classification scheme is based on that described in IMF, *A Manual on Government Finance Statistics*. 1986. It is perhaps worth noting that, following these IMF guidelines, consumption taxes are classified here as taxes on domestic transactions even when the tax is being paid on imported goods (see IMF Manual p. 124).

For the countries whose fiscal year is not a calendar year (Dominica, St Lucia, St Vincent some years, and Barbados) the raw data was adjusted so that all the figures used here are on a calendar year basis.

GDP is measured at factor cost. Data for the OECS were supplied by the OECS Economic Affairs Secretariat whilst GDP for Barbados was taken from the Central Bank of Barbados, *Annual Statistical Digest*. 1992, Table 12.

The series used are recorded below.

	(1)	(2)	(3)	(4)
(i) Antigua				
1980	6688	20177	20598	257.2
1981	11114	25766	22510	289.4
1982	11794	32928	23937	317.1
1983	11939	34956	23933	356.1
1984	13853	39424	27751	403.5
1985	21646	47078	30573	468.3
1986	20298	66475	47071	552.1
1987	22426	77032	50891	647.5
1988	23983	88852	59371	771.1
1989	24120	90730	62934	874.2

(ii) Dominica

1980	11676	17073	6049	143.7
1981	15719	22249	8968	152.9
1982	16301	23445	9403	163.6
1983	17767	26660	10317	180.4
1984	20488	30519	11477	202.7
1985	24530	30859	14966	223.3
1986	24762	37960	19785	253.3
1987	26429	46609	18196	281.8
1988	27924	54361	19321	324.3
1989	27961	60162	22003	346.2

(iii) Grenada

1980	15859	19846	17227	167.6
1981	16408	20972	17194	180.9
1982	20654	26832	18312	196.6
1983	19827	31729	19014	204.5
1984	22693	32290	22157	223.4
1985	22941	41924	27407	246.2
1986	6671	48744	23797	282
1987	9113	57609	24741	320.5
1988	10965	65885	30062	350.2
1989	13636	73426	31592	395.3

Key: column (1), direct taxes; column (2), indirect taxes on domestic transactions; column (3), indirect taxes on international transactions.

Note: columns (1), (2) and (3) \$EC'000, column (4) \$ECm

	(1)	(2)	(3)	(4)
(iv) Montserrat				
1980	4635	4034	4459	58.4
1981	5404	5747	4866	64.7
1982	6477	5501	5289	72.1
1983	8038	5406	5247	77.7
1984	8554	6058	5169	83.9
1985	8533	6342	5624	88.2
1986	9891	7448	6281	94.7
1987	8214	9762	7071	102.8
1988	9117	12657	7430	116
1989	10885	13412	9406	134.5

(v) St Kitts

1980	6007	22639	9547	103.5
1981	4323	22936	11970	123.9
1982	5382	14928	12220	141.4
1983	4652	13262	11839	139.4
1984	6297	13187	12141	162.4
1985	6972	13919	12393	181
1986	6281	20865	14505	212.9
1987	8001	25516	19913	243.5
1988	9196	28273	21140	288.6
1989	12534	31387	25031	321.3

(vi) St Lucia

1980	26553	17100	31265	310.8
1981	29051	18009	34558	359
1982	36071	20138	34621	387.7
1983	35818	21597	39154	417.1
1984	35400	24097	45309	459.2
1985	48995	28589	48269	512.1
1986	48974	35387	62471	609.7
1987	46987	48838	73109	654.4
1988	55536	59969	85861	737.2
1989	64775	82885	82377	837.9

Key: column (1), direct taxes; column (2), indirect taxes on domestic transactions; column (3), indirect taxes on international transactions.

Note: columns (1), (2) and (3) \$EC'000, column (4) \$ECm

	(1)	(2)	(3)	(4)
(vii) St Vincent				
1980	11847	14060	11109	135.5
1981	14654	17827	11166	167.9
1982	19749	23850	16900	190.6
1983	22004	27789	21838	212.7
1984	21983	32097	28342	232.6
1985	23609	36927	38851	252.3
1986	24667	42744	45220	284.6
1987	27614	47098	49205	318
1988	29872	53436	56459	358.5
1989	32444	66649	61888	390.4

(viii) Barbados

1980	246705	124179	128577	2011.3
1981	242876	147192	137576	2303.5
1982	323666	151248	123717	2408.8
1983	332302	182181	159883	2563.7
1984	324222	198593	172520	2800.9
1985	355481	207031	230760	2944
1986	328795	241086	259638	3101.5
1987	308260	277663	297719	3373.7
1988	410376	331103	288667	3601.5
1989	518547	399905	317858	3928

Key: column (1), direct taxes; column (2), indirect taxes on domestic transactions; column (3), indirect taxes on international transactions.

Note: all Barbados data have been converted to \$EC. Columns (1), (2) and (3) \$EC'000, column (4) \$ECm

CHART 1
OECS and Barbados, 1980 - 1989
Ratio of Total Tax Collections to GDP

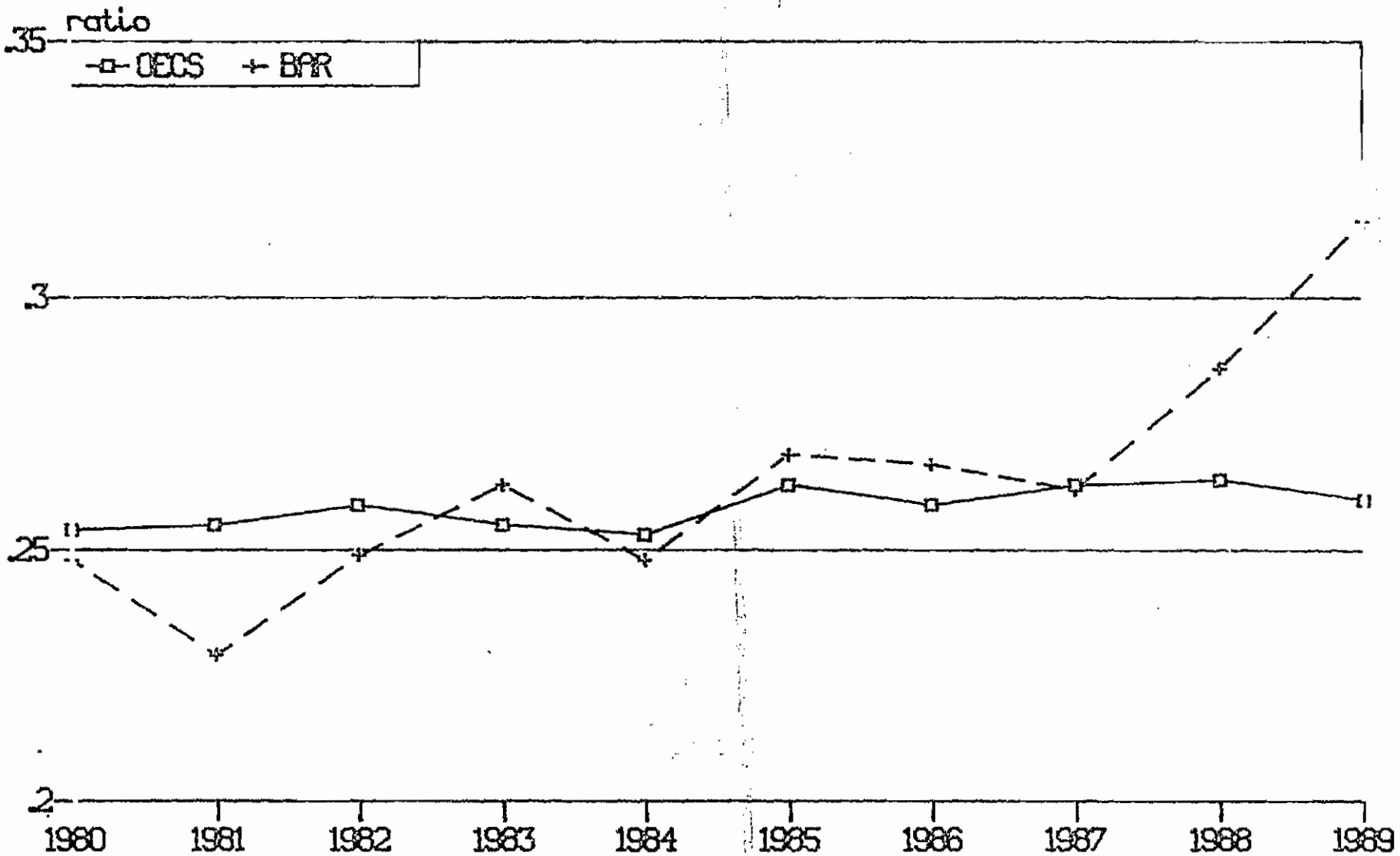
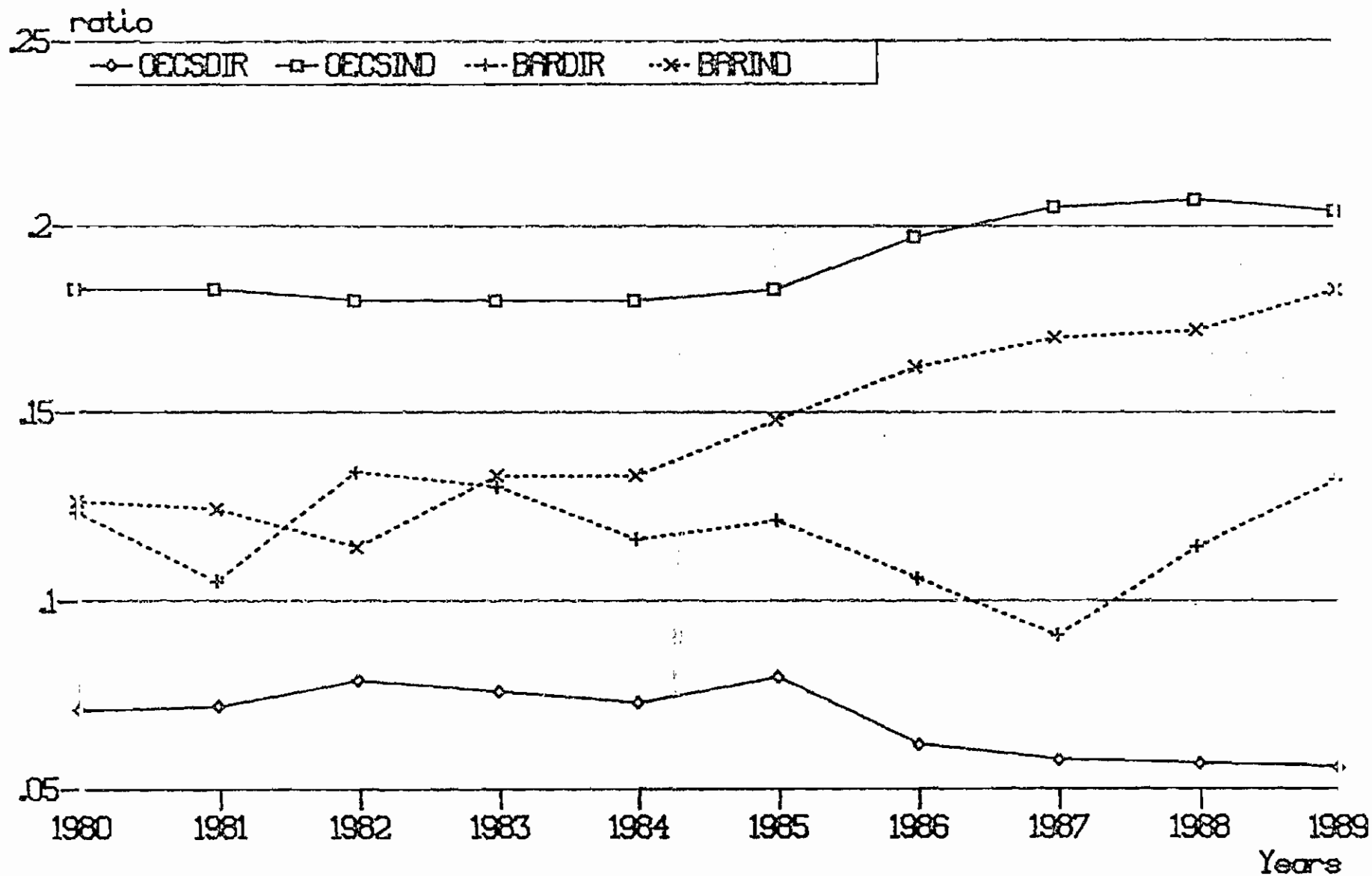


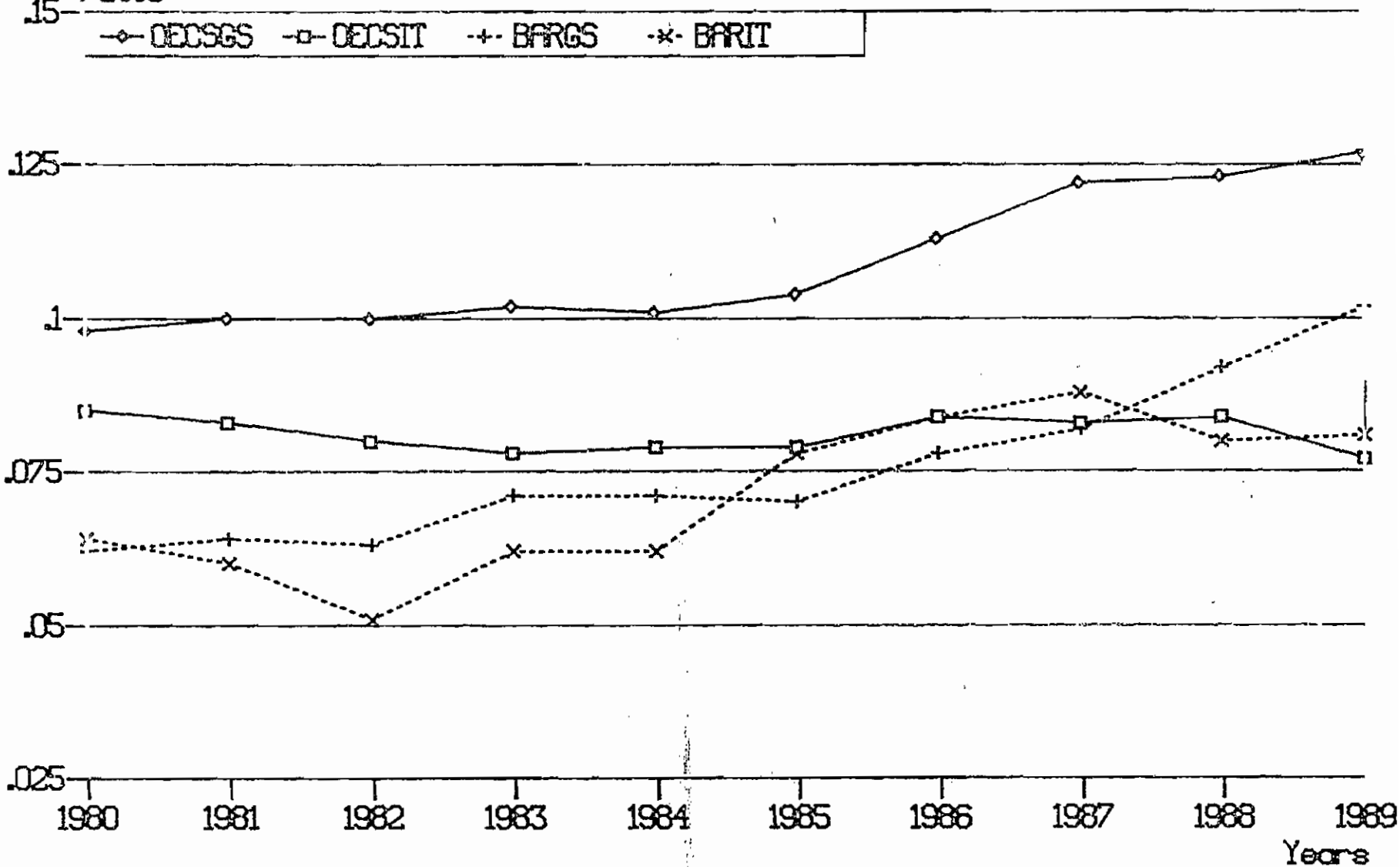
CHART 2
 OECS and Barbados: Structure of Taxation, 1980 - 1989
 Direct and Indirect Taxation, Ratio to GDP



Sources: see Appendix

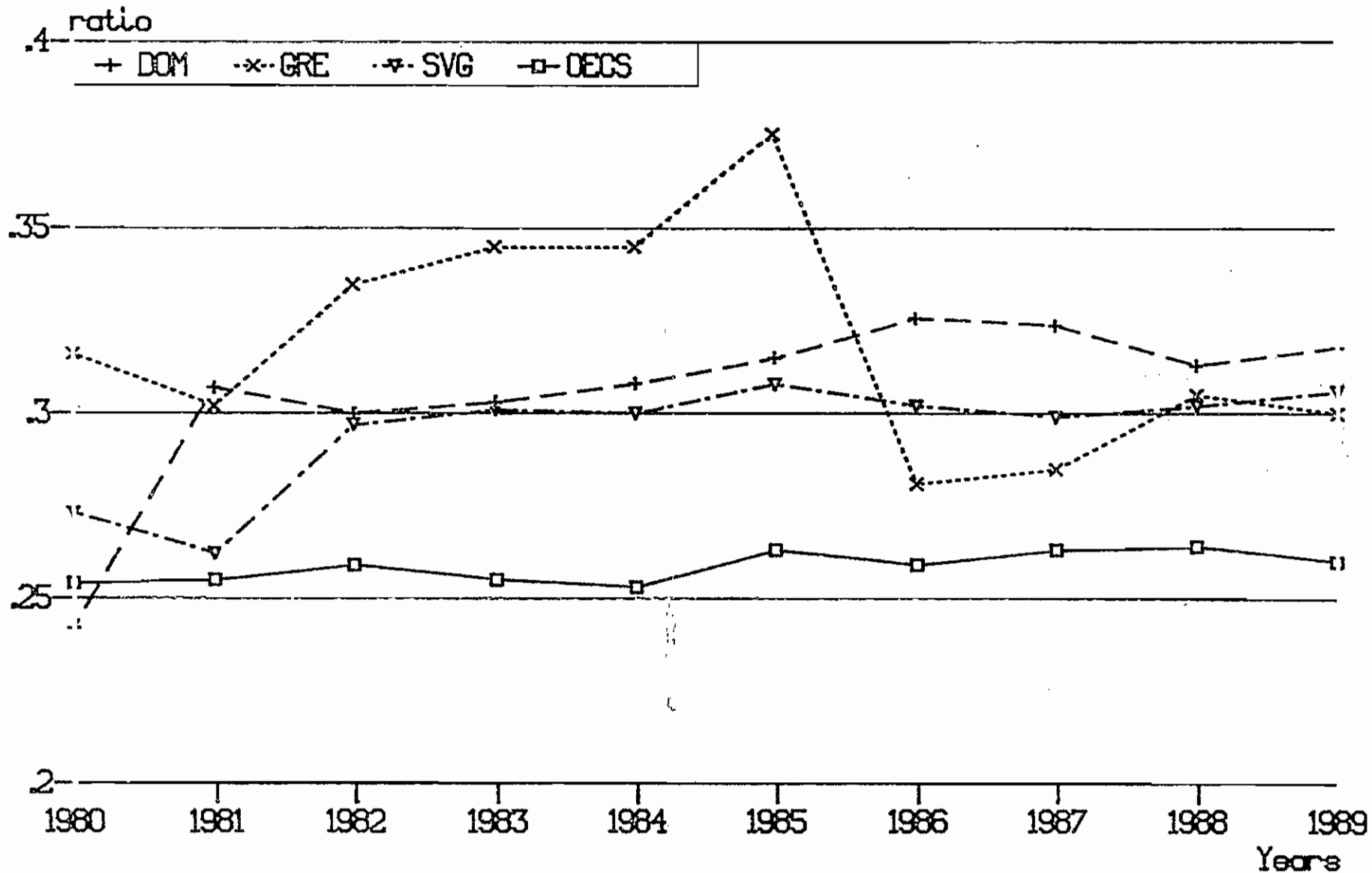
CHART 3

OECS and Barbados: Structure of Indirect Taxation, 1980 - 1989
 Indirect Taxation of Domestic and International Transactions, Ratio to GDP
 ratio



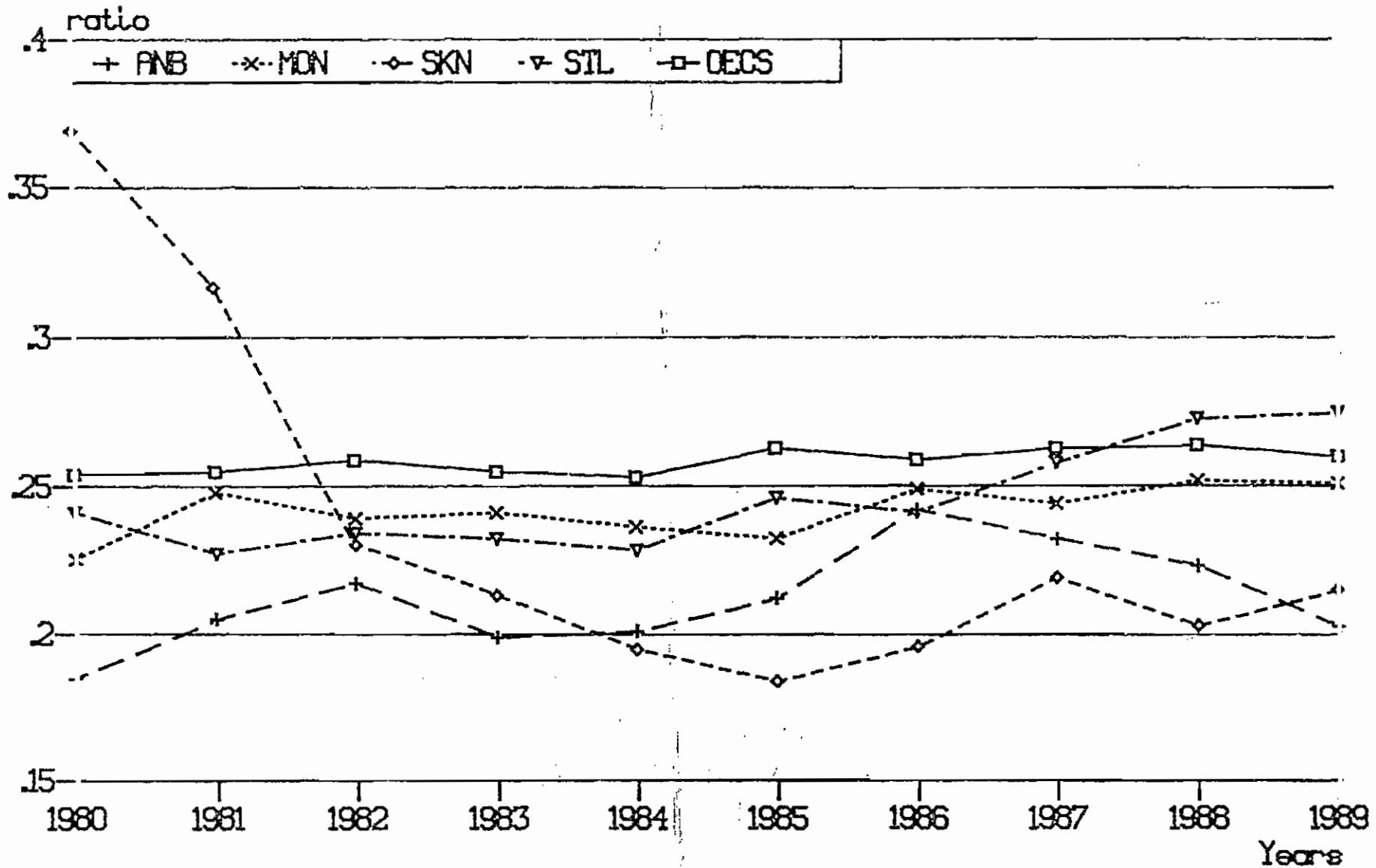
Source: see Appendix

CHART 4
 OECS High Tax Group, 1980 - 1989
 Ratio of Total Tax Collections to GDP



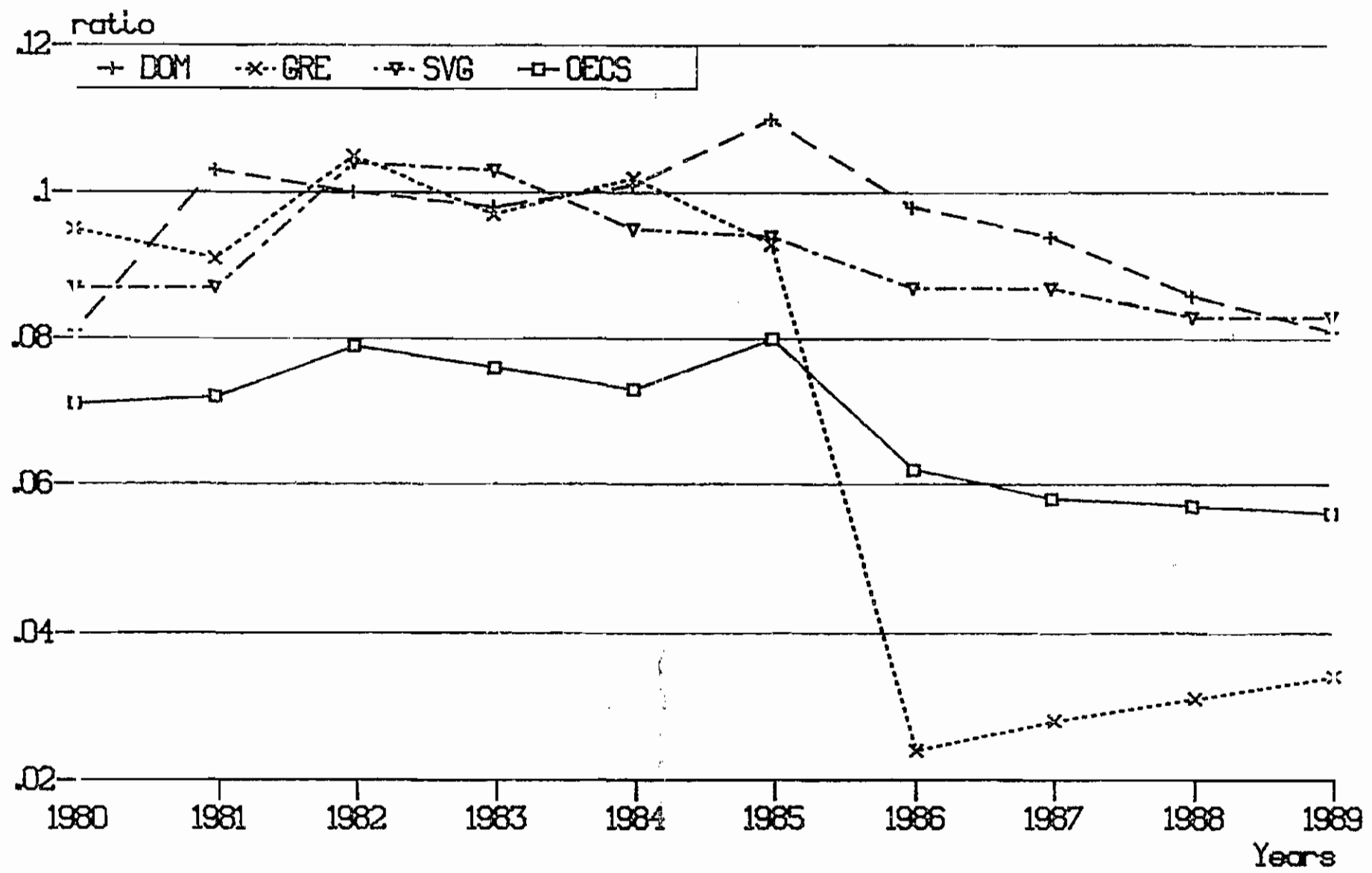
Source: see Appendix

CHART 5
 OECS Low Tax Group, 1980 - 1989
 Ratio of Total Tax Collections to GDP



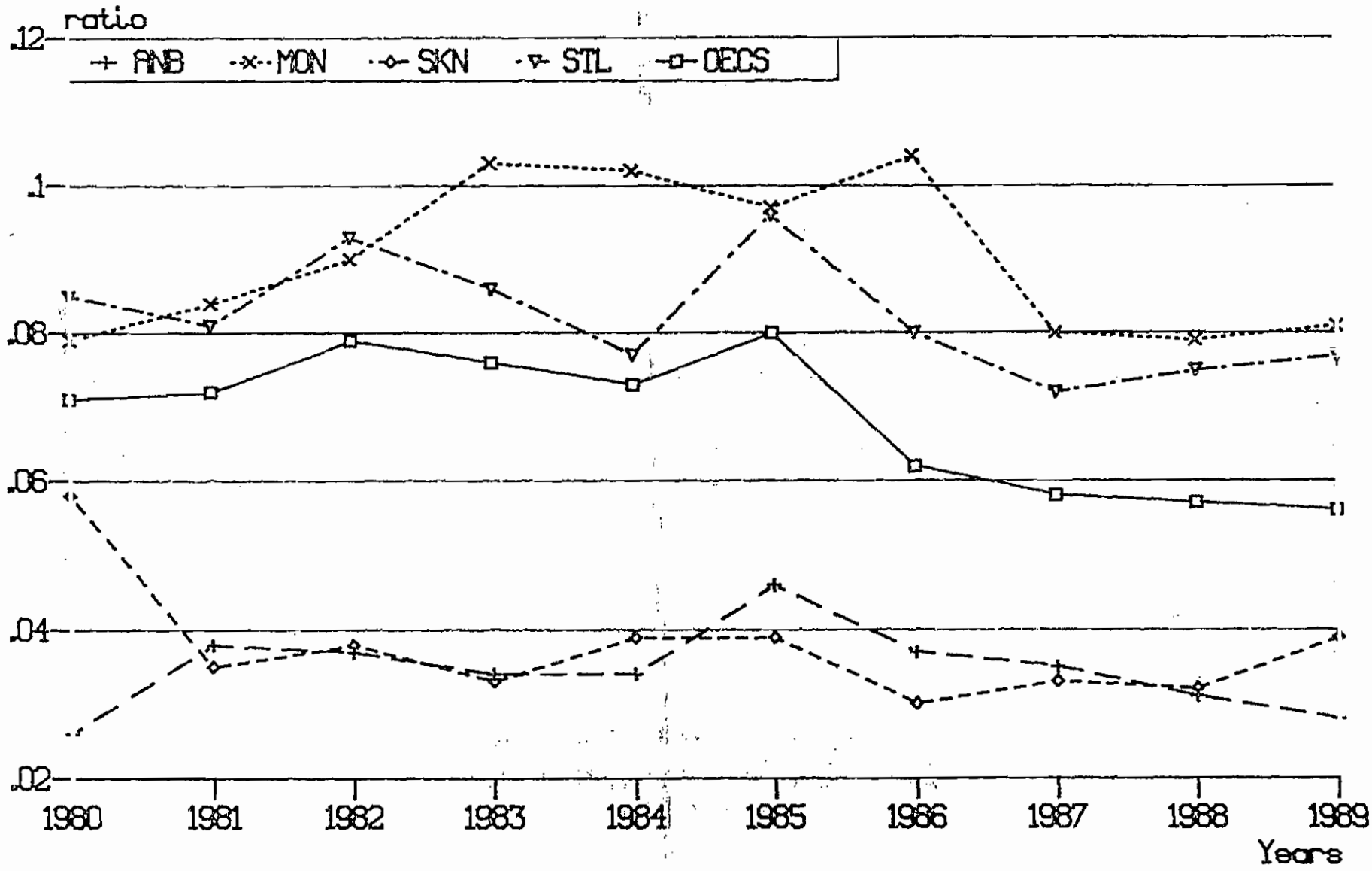
Source: see Appendix

CHART 6
 OECS High Tax Group, 1980 - 1989
 Ratio of Direct Tax Collections to GDP



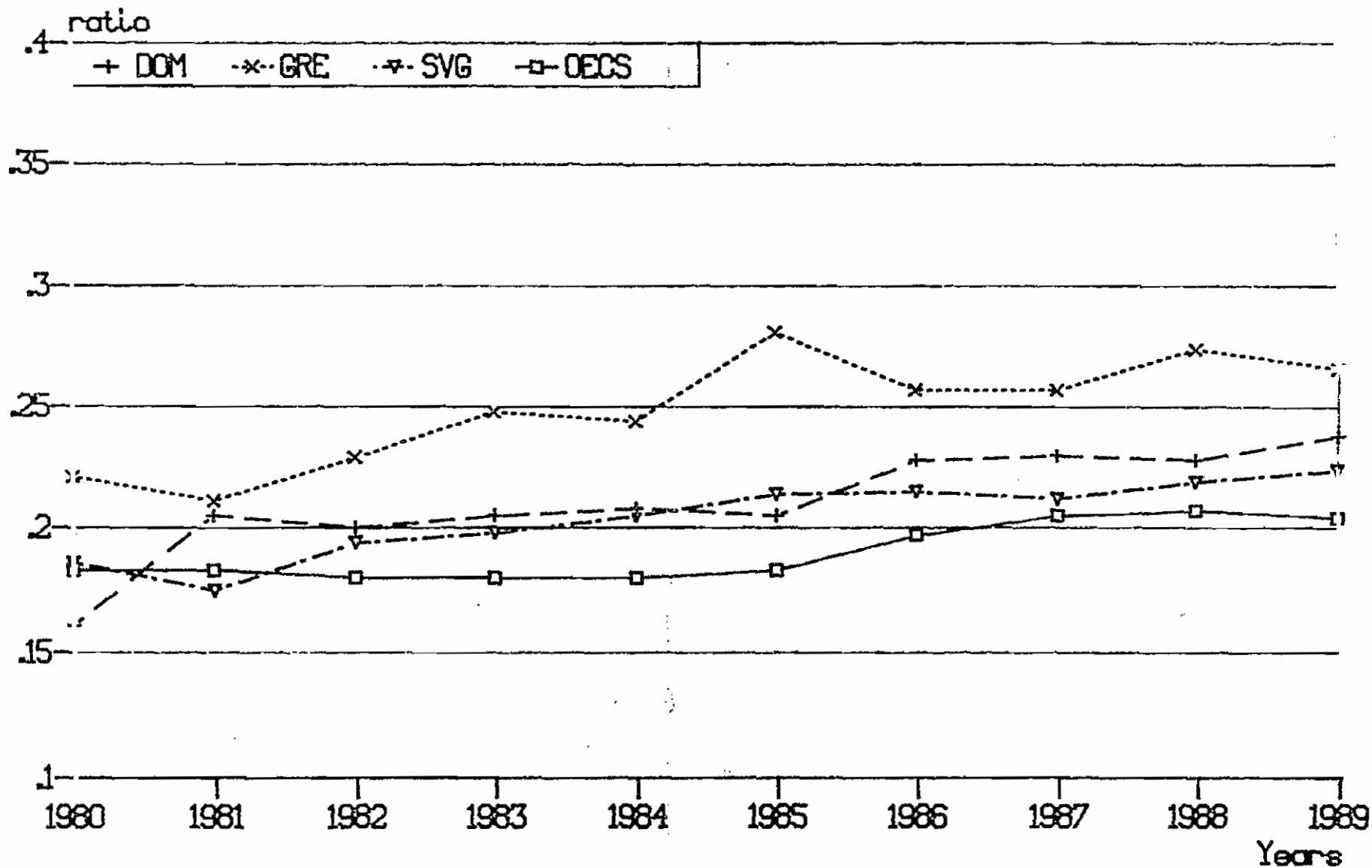
Source: see Appendix

CHART 7
 OECS 'Low Tax' Group, 1980 - 1989
 Ratio of Direct Tax Collections to GDP



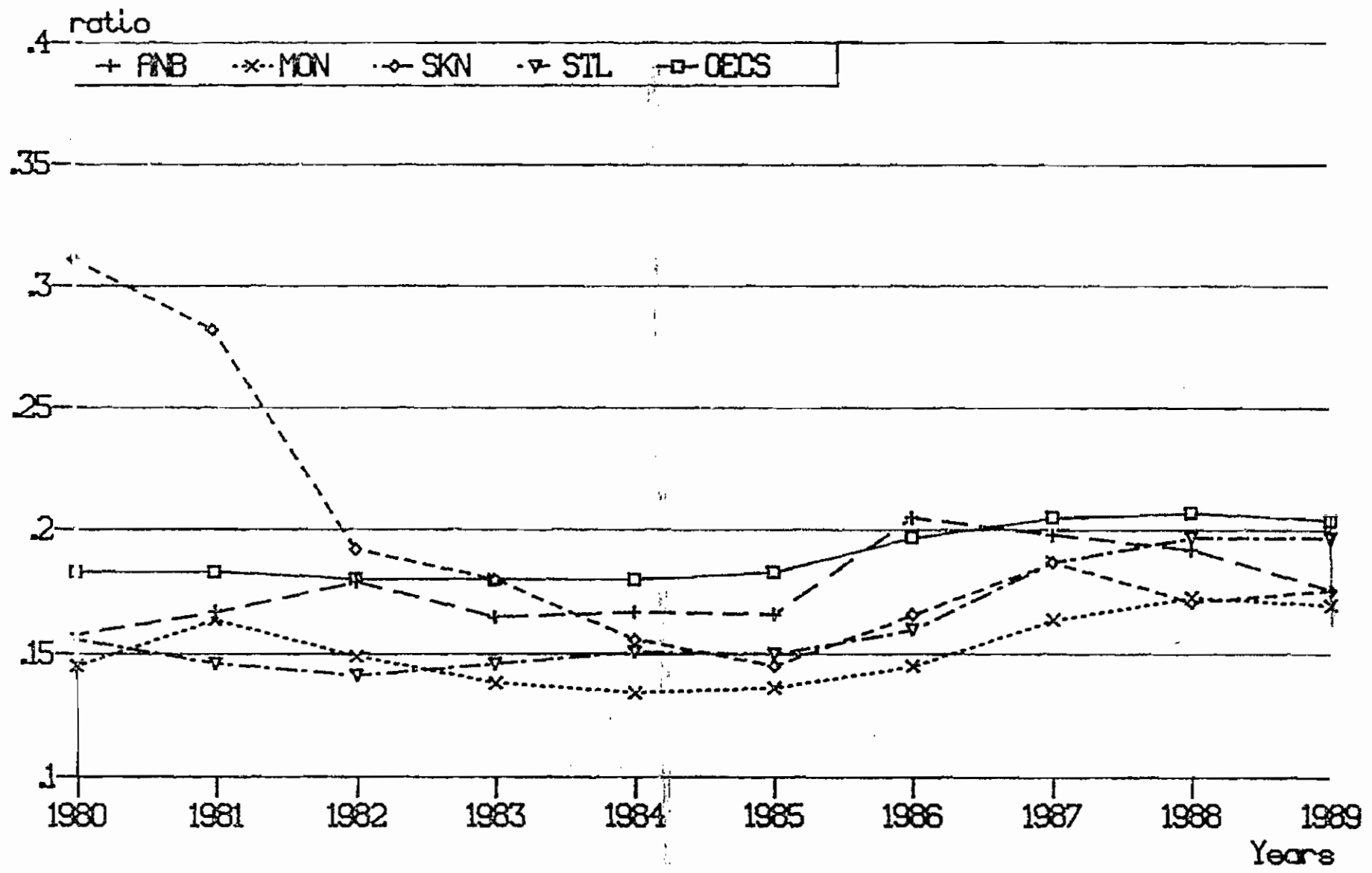
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CHART 8
 OECS High Tax Group, 1980 - 1989
 Ratio of Indirect Tax Collections to GDP



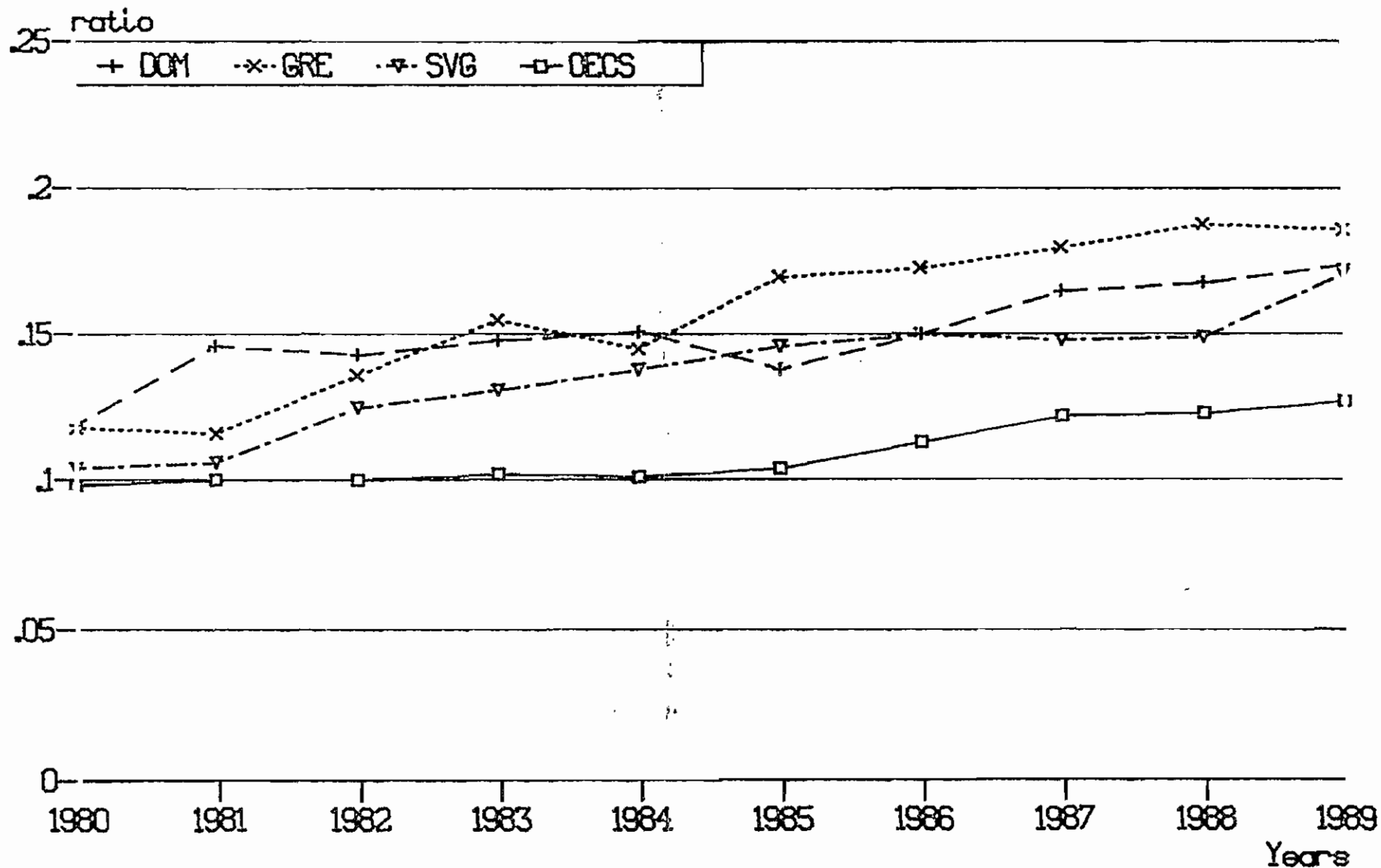
Source: see Appendix

CHART 9
 OECS Low Tax Group, 1980 - 1989
 Ratio of Indirect Tax Collections to GDP



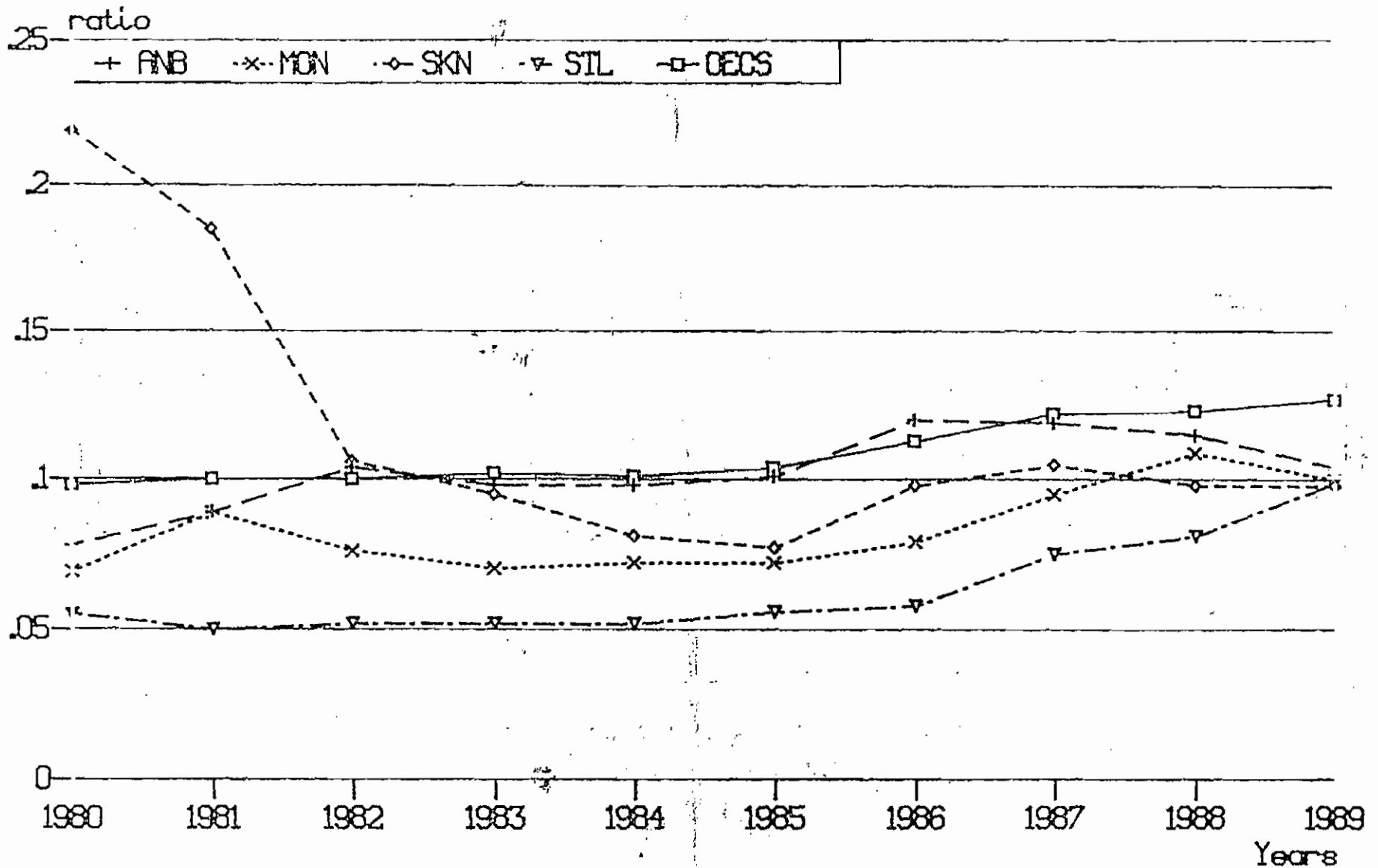
Source: see Appendix

CHART 10
 OECS High Tax Group, 1980 - 1989
 Ratio of Taxes on Domestic Transactions to GDP



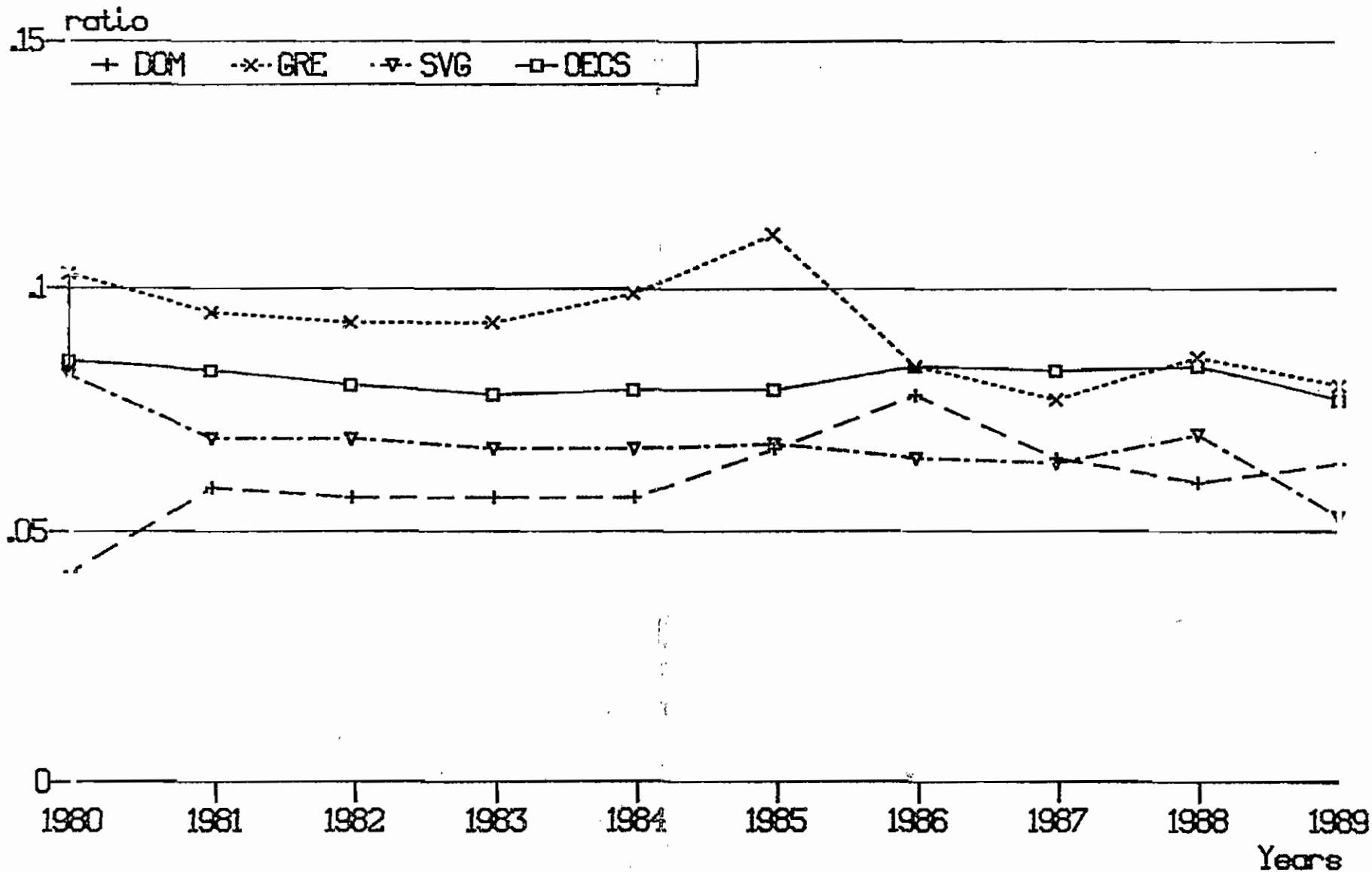
Source: see Appendix

CHART 11
 OECS 'Low Tax' Group, 1980 - 1989
 Ratio of Taxes on Domestic Transactions to GDP



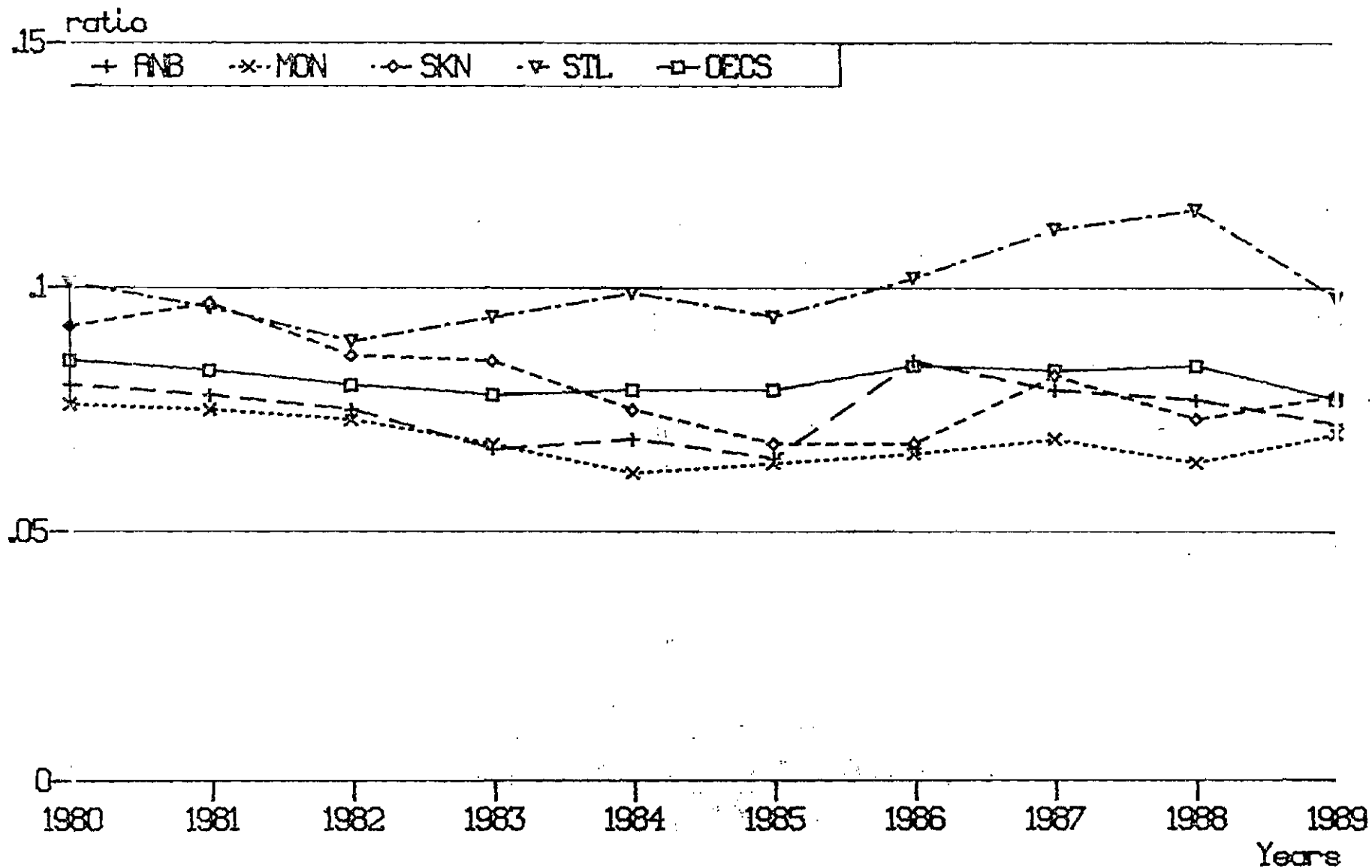
Source: see Appendix

CHART 12
 OECS High Tax Group, 1980 - 1989
 Ratio of Taxes on International Transactions to GDP



Source: see Appendix

CHART 13
 DECS Low Tax Group, 1980 - 1989
 Ratio of Taxes on International Transactions to GDP



Source: see Appendix