CHAPTER 5

CHAPTER 5

TAX PERFORMANCES IN NEGARA BRUNEI DARUSSALAM

5.1 Introduction

In earlier chapters, we have looked, briefly, at a number of important tax performance measurements, namely; tax reliance ratio, tax effort ratio, direct-indirect tax ratio, tax burden, and the buoyancy and income elasticity of tax revenue. In this chapter we shall use these measurements and compute them for NBD. A rather casual trend study shall be performed to see, chronologically, the importance of taxation in NBD for the last 37 years. This is thought to be important for a simple reason that no one has done this for NBD. In addition, a comparative study shall also be performed against other countries at comparable stages of economic development, enabling us to picture NBD's similarity as well as differences on the level tax reliance ratio, tax effort ratio, direct-indirect tax ratio, tax burden, and the buoyancy and income elasticity of tax revenue with these countries. In the end, apart from giving some new information about tax performances in NBD, it is hopeful that the results should give us the basis for our policy recommendations in **Chapter 6**.

5.2 Trend of Tax Revenue from 1965 to 2001

Based on the earlier chapters, we know that tax revenue is largely dependent on oil price, but we have not look at the trend as yet. Here, we shall look at it more closely, by finding out the trend, basing the 'outcome' of the trend on the 'economic

conditions' of the particular years or period that we have looked at in **Chapter 3**. The figures on tax revenue are presented in **Table 5.1** and portrayed diagrammatically in **Diagram 5.1**.

From the year 1965 to 2001, we can see that the trend of total tax revenue is overwhelmingly influenced by the direct tax, which includes corporation income tax and estate duty. And between the two direct taxes, corporation income tax contributed 'single handedly' to direct taxes. As such, its average contribution to direct tax for the last 37 years amounted to 99.92 percent and the remainder is contributed by estate duty. Hence, instead of using the term corporation income tax, we shall use the term direct tax, as this would not make any significant differences and much more convenient.

In the period between the year 1965 to 1973, direct tax revenue, and therefore total tax, portrays a fairly constant trend, though experiencing two 'shots' increase in 1969 and 1974. This is not surprising, especially in 1974 when OPEC's price increase takes effect. The post 1974 era shows the sharp increase in the direct tax collection, hence raising total tax revenue.

Despite a slight increase in the price of oil between the years 1975 to 1976, surprisingly, direct tax showed signs of retard increase. And since crude oil production per day in 1975 to 1978 was at 192,000 barrels, there must have been other factors at work. One possible cause for this is the administration problem of tax collection – may be inefficiency – which is a possibility in a tax system. The direct

YEAR	CORP R TAX	ESTADUTY	DIRECT TAX	EXPDUTY	EXCSDUT	STAMPDUTY	IMPDUTY	LICENCES	TOTINDIRTAX	GDP	TOTALTAX
1965	36017	23.5	36040.5	67.7	13.1	18.5	5409.8	379.6	5888.7	348000	41929.2
1966	31159	38.9	31197.9	44.5	13.4	15.2	6515.7	437.7	7026.5	405200	38224.4
1967	42745.2	32.5	42777.7	25.4	6.9	21.9	6642.7	492.2	7189.1	424300	49966.8
1968	91336.4	107.2	91443.6	5.4	8.1	24.4	7156.1	617.1	7811.1	490900	99254.7
1969	121437.2	78.8	121516	30.4	17	46.9	8762.8	712.7	9569.8	491700	131085.8
1970	92015.3	83.6	92098.9	20.7	19	30.8	8850.2	757.6	9678.3	546300	101777.2
1971	104639.7	134.4	104774.1	42.7	16	57.7	9002.2	886.4	10005	600900	114779.1
1972	121919.5	570.8	122490.3	55.5	33.2	122.8	10002.1	922.4	11136	762600	133626.3
1973	233592	637.6	234229.6	0.9	18.4	127.1	10738.7	988.6	11873.7	976000	246103.3
1974	687927.8	206.8	688134.6	0	18.8	168.7	14960.4	1080.3	16228.2	2616200	704362.8
1975	1055704	192	1055896	3.8	18.1	239	17813.5	1265.7	19340.1	2770400	1075236.1
1976	1032619	223	1032842	0	26.4	240.6	22233.4	1394.6	23895	3516100	1056737
1977	1156213	142.7	1156355.7	0	18.9	309.1	27806.4	1628.9	29763.3	4226800	1186119
1978	1279293	194.6	1279487.6	0	18.6	420	27740.2	1825.1	30003.9	4416200	1309491.5
1979	1719025	366.4	1719391.4	0	20.5	514.3	32522.6	1971.6	35029	6097100	1754420.4
1980	2845780	447.6	2846227.6	0	19.7	671	44434.2	2232.8	47357.7	10553600	2893585.3
1981	3473241	242.4	3473483.4	0	56.7	854	45878.8	2580	49369.5	9224400	3522852.9
1982	3321140	1746.2	3322886.2	0	20.2	1242.9	52915.1	2938.5	57116.7	9125500	3380002.9
1983	2784568	437	2785005	0	89.2	726.6	67739.1	2232.5	70787.4	8123900	2855792.4
1984	2415024	794.4	2415818.4	0	22.5	1064.1	65594.7	3964.4	70645.7	8068500	2486464.1
1985	2508865	1002.3	2509867.3	0	21.7	1123.1	63044	4823.7	69012.5	7752300	2578879.8
1986	1916414	1126.6	1917540.6	0	22.5	1048.8	57661.6	4224.9	62957.8	5227200	1980498.4
1987	1552910	2489.9	1555399.9	0	27.4	1370.3	60894.8	4801.8	67094.3	5800900	1622494.2
1988	1415218	1614.7	1416832.7	0	27	1689.3	69356.2	4970.2	76042.7	5414800	1492875.4
1989	1479526	2736.9	1482262.9	0	27.5	1847.7	78016.3	5123.8	85015.3	5845000	1567278.2
1990	1518577	893.4	1519470.4	0	23.8	1679.5	83372.4	5504.6	90580.3	6508600	1610050.7
1991	1365200	1398.1	1366598.1	0	1.1	1677.3	90957.5	6262.2	98898.1	6620500	1465496.2
1992	1178874	1154.6	1180028.6	0	0	1948.6	103984.4	6376.6	112309.6	6565100	1292338.2
1993	1029110	1572.9	1030682.9	0	0	2143.4	104590.9	6340.6	113074.9	6585100	1143757.8
1994	988665.5	270.8	988936.3	0	0	2312.1	100601.2	7696.8	110610.1	6686200	1099546.4
1995	1054582	1173.4	1055755.4	0	0	3044.8	164334.1	8241.1	175620	7394200	1231375.4
1996	1216718	408.7	1217126.7	0	0	3890.2	183300.5	9293.2	196483.9	7684800	1413610.6
1997	1333310	507.4	1333817.4	0	0	3222.3	224221.7	9895.4	237339.4	8051000	1571156.8
1998	850066.2	809.1	850875.3	0	0	2935.3	106224.5	9961.4	119121.2	8111000	969996.5
1999	1238900	990	1239890	0	0	3370	90270	10450	104090	7144700	1343980
2000	2314737	519.3	2315256.3	0	0	3984	92080.1	10741.6	106805.7	7441100	2422062
2001	1703410	530	1703940	0	0	2970	80270	7710	90950	7619200	1794890

Source: Brunei Darussalam Statistical Yearbooks, various issues
Figure for 2001 is only until October 2001

Trend of Tax Revenue by Type, 1965 to 2001*

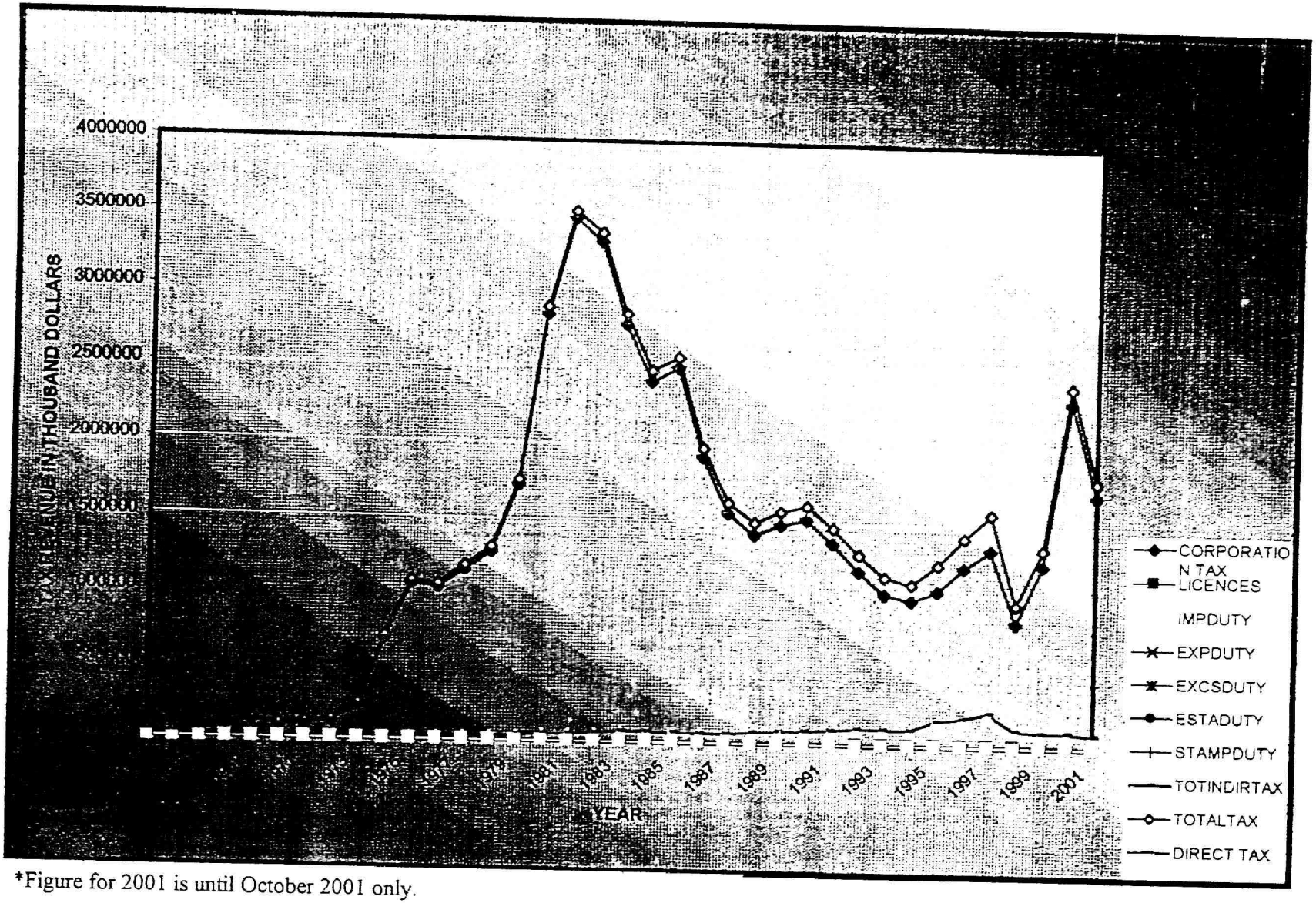

*Figure for 2001 is until October 2001 only.

taxes then recovered in 1977, and increased rapidly, reaching it's highest in 1981, amounting to nearly BND$ 3.5 billion - an increase of about 6899 percent from 1965's value. The sharp increase in direct tax revenue and therefore total tax revenue was made possible by the increase in oil price, particularly in 1979, when the price of oil shots up from US$ 14.56 per barrel to US$ 21.54 per barrel – an increase of about 48 percent. An additional push to the increase in total revenue was the increase of crude oil production per day to 261,000 barrels in 1979.

After reaching its highest in 1981, the collection of direct tax revenue started to wear out, and fell rapidly, eventuating to BND$ 2.5 billion in 1985 – was slightly lower in 1984. This falling of direct tax revenue is somewhat 'gentler' compared to the increased it experienced in pre 1981 period. This was due to the relatively moderate fall of oil price compared to the post 1981 increase and also the government decision to follow an oil conservation policy to rationalize the oil output. However, proceeding 1986, coinciding with the plunged of oil price from US$ 27.00 per barrel in 1985 to only US$ 14.32 per barrel in 1986, income tax revenue was slashed by 23.6 percent to BND$ 1.9 billion. Despite getting quite stronger oil's value in the following year, direct tax revenue and therefore total revenue failed to impress. This 'unyielding' performance of direct tax revenue cannot be totally accounted for by price of oil. Some other factors may have been at work, halting the performance of this type of tax. The gradual reduction of production of oil to the level of 150,000 barrels per day in 1988 and 1989 may, to a certain degree, aggravated the existing situation.

After direct tax has slightly increased in 1991, it fell continually, and reached BND$ 0.9 billion mark in 1994, the lowest in 20 years. Though in November 1990, the government 'revoked' the conservation policy and directed a gradual increase production of crude oil, - which may have been followed to raise revenue - it seems that it had failed. With slight reduction in oil price, direct tax revenue however improved and this may in fact be resulted from the increase in crude oil production.

The gentle increase continued until 1997, corresponding with oil price increase and rise in oil production, which reached 163,000 barrels per day in 1997. The significant fall in oil price in 1998, from US$ 18.62 per barrel to US$ 12.14 per barrel in 1997 reduced direct tax revenue to only about BND$ 0.85 billion. The following years saw favorable oil price resulting the jump in direct tax revenue, especially in 2000 when the price of oil jumped from US$ 17.7 per barrel in 1999 to US$ 22.02 per barrel in 2000, where collection of direct tax increased from BND$ 1.2 billion to BND$ 2.3 billion in 2000. For the year 2001, the collection of direct tax revenue until October 2001 was about BND$ 1.7 billion.

A fairly constant feature of the trend for the total indirect taxes for the 37 years period, though a slight increase in the amount of tax collected between the years 1995 to 1998. This increase was probably resulted by the changes in the import duty rates within this period. But then it came back to its previous consistent level in 1999 and onwards. By type, import duty was obviously performing well above the other types of taxes, which basically influenced the trend of the total indirect taxes.

5.3 Tax Reliance Ratio

The tax reliance ratio is presented in **Table 5.2** and **Diagram 5.2**. By first glance, one can deduce that, NBD relies heavily on direct tax. In **Table 5.2** and **Diagram 5.2**, it can be seen clearly how dependent is NBD with its direct tax and how 'unreliable' indirect taxes are. In the period between the years 1965 to 1967, the direct tax reliance ratio is averaging very high at about 84.4. The indirect taxes flared 'quite well' averaging about 15.6, in the same period. The tax reliance ratio of the indirect taxes is contributed largely by the import duty alone, with reliance ratio averaging at 14.4. The other indirect taxes have very insignificant reliance ratios, suggesting, to a certain degree, their unimportance.

In 1968, the reliance ratio of the direct tax increased to about 92.0 and it continued to be very close to 92.0, up till 1972. The increased reliance on direct tax is compensated by the lower indirect tax reliance ratio, averaging about 8.5. This is similar by saying that reliance ratio for import duty has also decreased. The reliance on direct tax became more prominent in 1973 with 94.9, an increase of about 3 percent from the year earlier. The prominence of direct tax reliance continued, averaging at 97.6, between the years 1974 to 1985. Of course, this was attributed by the high price of oil during the period. On the other hand, NBD's reliance on the indirect taxes fell to about 2.4 in average, continuing its bad performance.

The abolishment of export duty may actually have some effect to the indirect taxes' reliance ratio, albeit insignificantly. The high reliance ratio of direct tax

YEAR	CORPOR. TAX	ESTADUTY	DIRECT TAX	EXPDUTY	EXCSDUTY	STAMPDUTY	IMPDUTY	LICENCES	TOTINDIRTAX
1965	85.90	0.06	85.96	0.16	0.03	0.04	12.90	0.91	14.04
1966	81.52	0.10	81.62	0.12	0.04	0.04	17.05	1.15	18.38
1967	85.55	0.07	85.61	0.05	0.01	0.04	13.29	0.99	14.39
1968	92.02	0.11	92.13	0.01	0.01	0.02	7.21	0.62	7.87
1969	92.64	0.06	92.70	0.02	0.01	0.04	6.68	0.54	7.30
1970	90.41	0.08	90.49	0.02	0.02	0.03	8.70	0.74	9.51
1971	91.17	0.12	91.28	0.04	0.01	0.05	7.84	0.77	8.72
1972	91.24	0.43	91.67	0.04	0.02	0.09	7.49	0.69	8.33
1973	94.92	0.26	95.18	0.00	0.01	0.05	4.36	0.40	4.82
1974	97.67	0.03	97.70	0.00	0.00	0.02	2.12	0.15	2.30
1975	98.18	0.02	98.20	0.00	0.00	0.02	1.66	0.12	1.80
1976	97.72	0.02	97.74	0.00	0.00	0.02	2.10	0.13	2.26
1977	97.48	0.01	97.49	0.00	0.00	0.03	2.34	0.14	2.51
1978	97.69	0.01	97.71	0.00	0.00	0.03	2.12	0.14	2.29
1979	97.98	0.02	98.00	0.00	0.00	0.03	1.85	0.11	2.00
1980	98.35	0.02	98.36	0.00	0.00	0.02	1.54	0.08	1.64
1981	98.59	0.01	98.60	0.00	0.00	0.02	1.30	0.07	1.40
1982	98.26	0.05	98.31	0.00	0.00	0.04	1.57	0.09	1.69
1983	97.51	0.02	97.52	0.00	0.00	0.03	2.37	0.08	2.48
1984	97.13	0.03	97.16	0.00	0.00	0.04	2.64	0.16	2.84
1985	97.29	0.04	97.32	0.00	0.00	0.04	2.44	0.19	2.68
1986	96.76	0.06	96.82	0.00	0.00	0.05	2.91	0.21	3.18
1987	95.71	0.15	95.86	0.00	0.00	0.08	3.75	0.30	4.14
1988	94.80	0.11	94.91	0.00	0.00	0.11	4.65	0.33	5.09
1989	94.40	0.17	94.58	0.00	0.00	0.12	4.98	0.33	5.42
1990	94.32	0.06	94.37	0.00	0.00	0.10	5.18	0.34	5.63
1991	93.16	0.10	93.25	0.00	0.00	0.11	6.21	0.43	6.75
1992	91.22	0.09	91.31	0.00	0.00	0.15	8.05	0.49	8.69
1993	89.98	0.14	90.11	0.00	0.00	0.19	9.14	0.55	9.89
1994	89.92	0.02	89.94	0.00	0.00	0.21	9.15	0.70	10.06
1995	85.64	0.10	85.74	0.00	0.00	0.25	13.35	0.67	14.26
1996	86.07	0.03	86.10	0.00	0.00	0.28	12.97	0.66	13.90
1997	84.86	0.03	84.89	0.00	0.00	0.21	14.27	0.63	15.11
1998	87.64	0.08	87.72	0.00	0.00	0.30	10.95	1.03	12.28
1999	92.18	0.07	92.26	0.00	0.00	0.25	6.72	0.78	7.74
2000	95.57	0.02	95.59	0.00	0.00	0.16	3.80	0.44	4.41
2001	94.90	0.03	94.93	0.00	0.00	0.17	4.47	0.43	5.07

***Source**: Brunei Darussalam Statistical Yearbook, various issues*
**Figure for 2001 is only until October 2001*

Diagram 5.2:
Tax Reliance Ratio, 1965 to 2001*

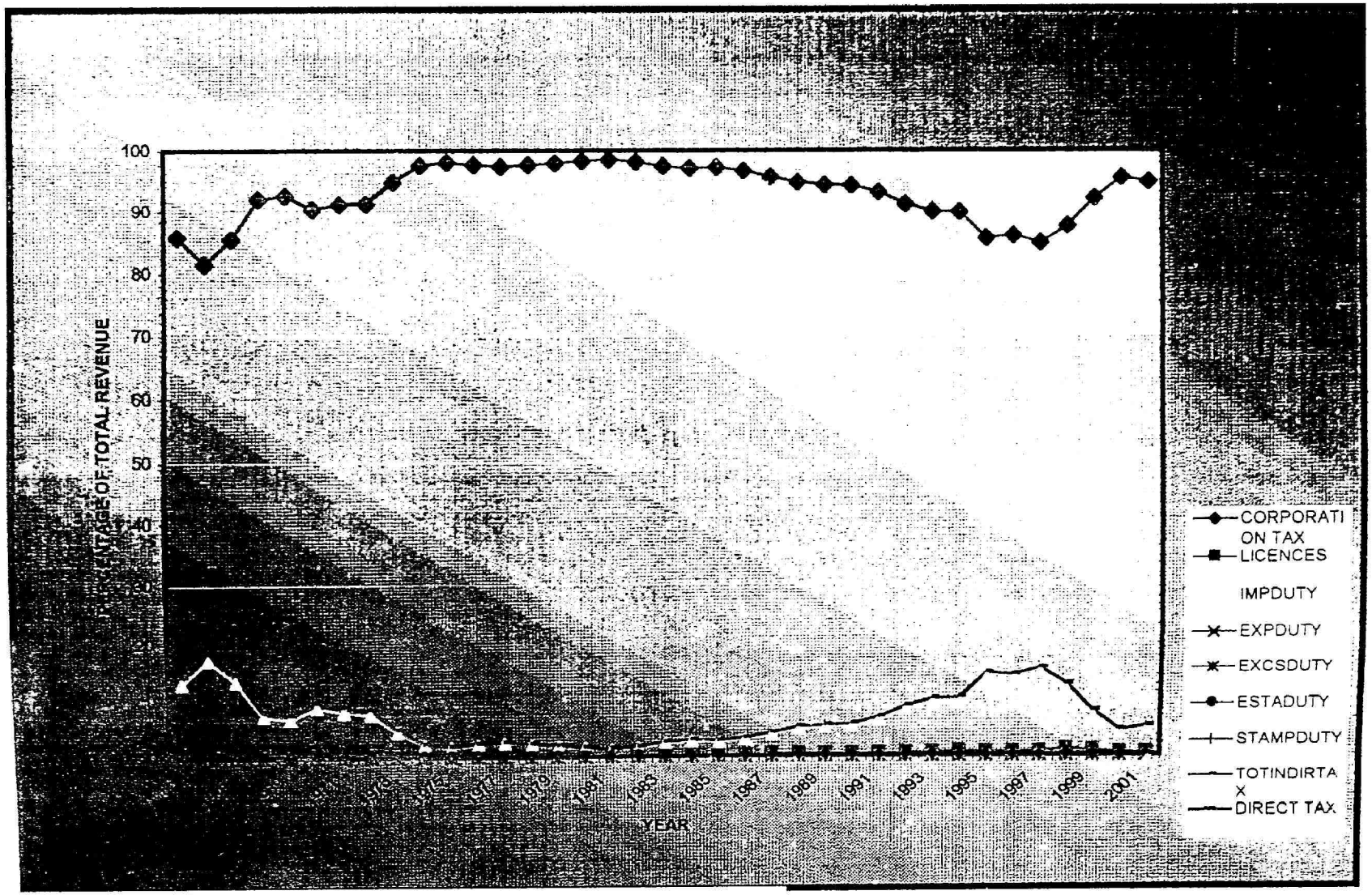

*Figure for 2001 is until October 2001 only.

eventually eased out in 1986 with 96.7, corresponding to the plunged of oil price in that year. The following years showed a gentle fall in direct tax reliance ratio and reached the 89.9 mark in 1994. This was coinciding with the gentle rise in 'value' of import duty from 1986 to 1992 and somewhat constant for the next 2 years.

Between the years 1994 to 1998, oil price did not seem to be playing the 'prominent' role as it did in the early 80s and nor did the oil production level in influencing direct tax revenue. One of the possible reasons is that there were several changes in the rates of the import duty at the end of 1994 and early months of 1995. These amendments are shown in **Table 5.3** below.

Table 5.3:
Amendments in Tax Rate

Date	The Changes
01.11.1994	The increase of tobacco/cigarette duty from ($0.00 - $10.00 per lb) to ($30.00 - $100 per Kgm)
02.02.1995	The increase of vehicle duty from 20% to 40%-200% according to vehicles category
01.04.1995	Decrease in tax for domestic goods, e.g. perfumes decrease (from 30% to 5%) and the tax tariff of furniture, air condition, TV & Radio decrease from 20% to 5%.

In 1995, the direct tax reliance ratio fell to about 85.7 from 89.9 in 1994, the lowest in 27 years. With the concern on health of the people, at the end of 1994, the authority revised the taxes on tobacco/cigarettes duty, obviously to discourage people from smoking.

The increase of vehicle duty in 1995 can be considered as a 'viable' option if the government would want to improve tax reliance on import duty and therefore

indirect taxes, because it has a 'lion' share of the NBD's total imports. In April 1995, tax for domestic goods is cut with significant amount. This is a commitment by the AFTA member countries, in which by the year 2005 all traded goods within its members will be subjected to tariff between 0 to 5 percent. The outcome of the total import duty collected during this period 'turned out' as expected. The tax reliance ratio for import duty and therefore indirect taxes, increased from 10.06 in 1994 to 14.26 in 1995.

The impressive performance of the indirect taxes continued for the next 3 years, despite the increasing 'value' of direct tax. The other types of indirect taxes have also shown some improvement, but still 'powerless' to raise the total indirect tax reliance ratio. The remaining years saw direct tax reliance ratio prepared for its come back – and with the decreasing value of import duty – where in 1999, its reliance ratio rose to about 92.3 from 87.7 in the previous year. The direct tax reliance ratio continued to be in the higher level in the next two years averaging about 95.3 and this means that NBD's reliance on import duty and therefore indirect tax reliance ratio remains low.

Therefore, for the 37 years period in observation, it can be seen that NBD is virtually relied on direct taxes, i.e. corporation income tax. Let us look at other countries' tax reliance ratios and compare them to NBD. **Table 5.4** exhibits the tax reliance ratios for by country groups for the year 2000[1].

[1] See **Chapter 1** and **Appendix 1** for the detail explanations and calculations.

Table 5.4:
Tax Reliance Ratio by Country Grouping, 2000

Country group	Taxes on Income, Profits, and Cap. Gains	Individ.	Corpor.	Social Security Contrib.	Taxes on Payroll and Work Force	Taxes on Property	Domestic Taxes on Goods and Services	Gen. Sales Turnover or V.A.T.	Taxes on Internatl. Trade and Transact.	Other Taxes	Total Tax Revenue
INDUSTRIAL COUNTRIES	43.92	30.05	8.42	24.55	2.47	1.49	26.54	14.38	0.56	0.38	100
DEVELOPING COUNTRIES											
Africa	25.87	12.67	10.55	4.9	0.22	1.53	33.28	15.68	32.52	1.6	100
Asia	21.56	9.77	11.76	4.01	0	0.76	45.72	19.8	26.12	1.86	100
Europe	15.34	8.16	6.85	29.73	0.48	0.32	50.36	31.94	3.62	0.15	100
Middle East	34.59	15.68	17.83	25.4	2.85	1.54	19.8	10.13	15.3	0.53	100
Western Hemisphere	20.39	6.84	13.09	10.02	0	3.08	46.52	33.88	14.43	5.45	100
ASEAN	43.48	14.81	25.67	1.01	0	2.04	38.74	19.11	11.98	3.02	100
Oil Exporting Countries	40.01	7.64	39.85	14.67	1.12	0.86	28.9	3.91	13.93	0.84	100
AVERAGE DEV. COUNTRIES	28.75	10.80	17.94	12.82	0.67	1.45	37.62	19.21	16.84	1.92	100
Brunei Darussalam	95.57	0	95.57	0	0	0.02	0	0	3.8	0.62	100

Notes: *Raw data are taken from National Account Statistics (1996/1997) and then computed manually to get all the figures. See* ***Appendix 1*** *for more information*

The first column in **Table 5.4** shows the country group and the remaining columns are the type of taxes. The individual and corporation tax are included in the taxes on income, profits, and capital gains whilst general sales turnover or V.A.T. is included in the domestic taxes on goods and services. To make comparison study more convenience, NBD's tax reliance ratio in the format furnished in **Table 5.4** is then produced here.

The second column of **Table 5.4** shows the first type of tax, which is taxes on income, profits, and capital gains. For this type of taxes, we can see three country groupings, which have significantly high reliance indexes. The highest being the Industrial countries with 43.92, followed by ASEAN with 43.48 and then Oil Exporting countries with 40.01 reliance indexes. The Middle East also has a quite significant reliance index with 34.59, followed by Africa with 25.87, Asia with 21.56 and then western Hemisphere with 20.39. The lowest in the list is Europe with 15.34. For the whole developing countries, tax reliance ratio for this type of tax is 28.75, much lower that those of the industrialized countries. As for NBD, the figure says it all. With tax reliance ratio of 95.57 for this type of tax, it should hint the policy makers to do something about this 'untypical' condition. But what is more interesting to look at is the reliance ratio for individual and corporation tax between these country groupings and NBD. For the Industrialized countries, the reliance on individual taxation is four times the reliance on corporation taxation with 30.05 and 8.42 tax reliance indexes respectively. One of the possible reasons for this is that industrialized countries know perfectly well that firms and businesses are important for economic growth and such relatively lower reliance ratio on corporation tax in these countries

should support this point. Africa has a quite balanced reliance ratio for both individual and corporation taxation with 12.67 and 10.55 tax reliance indexes respectively. Asia is more towards corporation taxation. But still, as in Africa, the gap between the two types of income taxes is quite minimal, with reliance ratio of 9.77 for individual taxation and 11.76 for corporation taxation. A quite similar pattern prevails in Europe to those in Africa where reliance is more towards individual tax though the differences are not much, but at a lower level. The Middle East countries exhibit similar pattern to those in Asia where more reliance are put on the corporation tax with 17.83, against the individual tax with 15.68. But again, the differences are not significant as compared to those of the industrialized countries. Similar pattern is also found in the Western Hemisphere and ASEAN, but the gaps between the two types of income tax are wider. For both country groups, the corporation taxes are approximately twice as much as the individual taxation. The last country group, the Oil Exporting countries can be considered as a mirror image of those of industrialized countries, where reliance on corporation is more than five times the reliance on individual tax. Developing countries, on the whole, are more inclined towards corporation income tax rather than individual income tax with 10.80 and 17.94 reliance indexes respectively. NBD has zero reliance ratios for individual income tax because, if we could remember, NBD does not have any personal income taxation. Thus, the 95.57 reliance index single handedly reflected by the corporation income tax. This figure is significantly higher than all the average reliance indexes by country groupings found in **Table 5.4**. Even individually, no countries (or at least against the individual countries that were selected, which are shown in **Appendix 1**) are higher than that of NBD's. This current position of the policy makers must be looked at more

closely to rectify whether such heavy reliance on corporation tax is necessary or not. It seems that, as **Table 5.4** portrays, the common theme sung by all country groups is 'a little bit of everything', though in 2 or 3 cases, such theme is highly bias to one part. Should NBD accept this conventionality or not, it is up to the policy makers to decide.

The second type of tax is furnished in the third column in **Table 5.4**, which is the social security contribution. Industrial countries, the Middle East and the less developed countries of Europe exhibit relatively high reliance on this type of tax with tax reliance indexes of 24.55, 25.4 and 29.73 respectively. The Western Hemisphere and the Oil Exporting countries display somewhat lower reliance indexes with 10.02 and 14.67 respectively. But much lower reliance indexes are found in Asia, Africa and the lowest, ASEAN with 1.01. Thus, one may say that Africa and Asia significantly do not rely on social security contribution within their host of tax revenue choices. This seems to be the pattern that exists in NBD where social security contribution is nil. Averaged developing countries, to a certain extent, agreed with this lower reliance on social security contribution, except for Europe and the Middle East.

The fourth type of tax is taxes on payroll and work force. There is not much to say about this type of tax, but one thing for sure is that all country groups seem to be, for some reasons, 'not interested'. For the industrial countries the reliance index is about 2.47 and for average developing countries the index is about 0.67. NBD on the other hand has zero reliance index on taxes on payroll and work force. Somewhat

similar figures of reliance ratios are exhibited for taxes on property, shown in **Column 7** in **Table 5.4**. All country groups exhibit reliance indexes of less than 4.0. NBD in this case has 0.02 reliance indexes, which solely comes from estate duty.

The fifth type of tax is the domestic taxes on goods and services. As we can immediately see, countries in the world rely quite heavily on this type of tax particularly the developing world, with an average of 37.62 tax reliance index. As for the industrial countries, it also has a significant reliance ratio with 26.54 tax reliance indexes. NBD, on the other hand, has zero reliance indexes for this type of tax. This is another distinctive characteristic of NBD's taxation structure. Based on **Chapter 2** and **Chapter 4**, we know that this type of tax can be generally divided into V.A.T and Excise tax. Since excise tax is not furnished adequately in the IMF's GFSY, only V.A.T. is included. Nevertheless, one may proximate the excise tax reliance ratio by deducting V.A.T. from the domestic taxes on goods and service figures. For the average Developing Countries, the V.A.T. reliance ratios are at least half of the total reliance ratio of the domestic taxes on goods and services figures, except for Oil Exporting countries. NBD, as we already know, has not V.A.T tax.

The sixth type of tax is the taxes on international trade and transaction. In this category of tax, the industrial countries portray lower reliance ratio with only 0.56 reliance indexes. Countries in Asia and Africa exhibit very significant reliance on this type of tax with 26.12 and 32.52 respectively. The Middle East, ASEAN, the Western Hemisphere and Oil Exporting countries reliance ratios are twice as low as those in Asia and Africa. The lowest however is Europe with 3.62 reliance indexes. On

average, developing countries have 16.84 reliance indexes on this type of taxes. Thus, on the whole, we can add one more characteristic of this type of taxes in that it is more prominent in the developing world rather than in the industrialized ones. Even NBD's reliance on these taxes is higher than those of the developed world with 3.8 reliance indexes. The other tax column exhibits lower reliance ratios for all country groupings, averaging 1.92 for the developing world and 0.38 for the industrialized countries. In this category NBD's reliance ratio is 0.62.

From brief discussions on the tax reliance ratio for country groups by type of tax, we may deduce several character specifications that prevail in other countries and these are shown in **Table 5.5**.

5.4 Tax Effort Ratio

Tax effort ratio is presented in **Table 5.6** and diagrammatically in **Diagram 5.3**. The period between the years 1965 to 2001 saw numerous but insignificant fluctuations of the tax efforts ratio for the direct tax and therefore, total tax. Indirect tax on the other hand, remains low for the 37 years period. Since we know that oil price have influences over total tax through direct tax and to a certain extent oil production, it is also known that GDP is also influenced by oil price through export. Therefore, the fluctuations did not, in any way, suggesting their respective positive relationship have broken down, rather, the 'flexibility' of GDP and direct tax to oil price changes differ throughout the period. Thus, a high percentage of tax revenue to GDP suggests a high tax effort.

Table 5.5:
Characteristics of Tax Reliance Ratio for Country Grouping, 2000

COUNTRY GROUP	CHARACTERISTICS OF TAX RELIANCE RATIO
INDUSTRIAL COUNTRIES	• More reliance towards taxes on income, Profits, and Capital Gains; Social Security Contribution and Domestic Taxes on Goods and Services. • More inclined towards Individual income tax.
DEVELOPING COUNTRIES Africa	• More reliance towards taxes on income, Profits, and Capital Gains; Domestic Taxes on Goods and Services; and Taxes on International Trade and Transaction. • Rather balance ratio between Individual and corporation income taxes.
Asia	• More reliance towards taxes on income, Profits, and Capital Gains; Domestic Taxes on Goods and Services; and Taxes on International Trade and Transaction. • Rather balance ratio between Individual and corporation income taxes.
Europe	• More reliance towards taxes on income, Profits, and Capital Gains; Social Security Contribution and Domestic Taxes on Goods and Services. • Rather balance ratio between Individual and corporation income taxes.
Middle East	• More reliance towards taxes on income, Profits, and Capital Gains; Social Security Contribution; Domestic Taxes on Goods and Services; and Taxes on International Trade and Transaction. • Rather balance ratio between Individual and corporation income taxes.
Western Hemisphere	• More reliance towards taxes on income, Profits, and Capital Gains; Social Security Contribution; Domestic Taxes on Goods and Services; and Taxes on International Trade and Transaction. • More inclined towards corporation income tax.
ASEAN	• More reliance towards taxes on income, Profits, and Capital Gains; Domestic Taxes on Goods and Services; and Taxes on International Trade and Transaction. • More inclined towards corporation income tax.
Oil Exporting Countries	• More reliance towards taxes on income, Profits, and Capital Gains; Social Security Contribution; Domestic Taxes on Goods and Services; and Taxes on International Trade and Transaction. • More inclined towards corporation income tax.
AVERAGE DEV. COUNTRIES	• More reliance towards taxes on income, Profits, and Capital Gains; Social Security Contribution; Domestic Taxes on Goods and Services; and Taxes on International Trade and Transaction. • More inclined towards corporation income tax.
Brunei Darussalam	• Outstanding reliance on Taxes on Income, Profits, and Capital Gains. • Rely solely on corporation income tax.

Tax Effort Ratio, 1965 to 2001

YEAR	CORPOR. TAX	ESTADUTY	DIRECT TAX	EXPDUTY	EXCSDUTY	STAMPDUTY	IMPDUTY	LICENCES	TOTINDIRTAX	TOTALTAX
1965	10.35	0.01	10.36	0.02	0.00	0.01	1.55	0.11	1.69	12.05
1966	7.69	0.01	7.70	0.01	0.00	0.00	1.61	0.11	1.73	9.43
1967	10.07	0.01	10.08	0.01	0.00	0.01	1.57	0.12	1.69	11.78
1968	18.61	0.02	18.63	0.00	0.00	0.00	1.46	0.13	1.59	20.22
1969	24.70	0.02	24.71	0.01	0.00	0.01	1.78	0.14	1.95	26.66
1970	16.84	0.02	16.86	0.00	0.00	0.01	1.62	0.14	1.77	18.63
1971	17.41	0.02	17.44	0.01	0.00	0.01	1.50	0.15	1.67	19.10
1972	15.99	0.07	16.06	0.01	0.00	0.02	1.31	0.12	1.46	17.52
1973	23.93	0.07	24.00	0.00	0.00	0.01	1.10	0.10	1.22	25.22
1974	26.29	0.01	26.30	0.00	0.00	0.01	0.57	0.04	0.62	26.92
1975	38.11	0.01	38.11	0.00	0.00	0.01	0.64	0.05	0.70	38.81
1976	29.37	0.01	29.37	0.00	0.00	0.01	0.63	0.04	0.68	30.05
1977	27.35	0.00	27.36	0.00	0.00	0.01	0.66	0.04	0.70	28.06
1978	28.97	0.00	28.97	0.00	0.00	0.01	0.63	0.04	0.68	29.65
1979	28.19	0.01	28.20	0.00	0.00	0.01	0.53	0.03	0.57	28.77
1980	26.97	0.00	26.97	0.00	0.00	0.01	0.42	0.02	0.45	27.42
1981	37.65	0.00	37.66	0.00	0.00	0.01	0.50	0.03	0.54	38.19
1982	36.39	0.02	36.41	0.00	0.00	0.01	0.58	0.03	0.63	37.04
1983	34.28	0.01	34.28	0.00	0.00	0.01	0.83	0.03	0.87	35.15
1984	29.93	0.01	29.94	0.00	0.00	0.01	0.81	0.05	0.88	30.82
1985	32.36	0.01	32.38	0.00	0.00	0.01	0.81	0.06	0.89	33.27
1986	36.66	0.02	36.68	0.00	0.00	0.02	1.10	0.08	1.20	37.89
1987	26.77	0.04	26.81	0.00	0.00	0.02	1.05	0.08	1.16	27.97
1988	26.14	0.03	26.17	0.00	0.00	0.03	1.28	0.09	1.40	27.57
1989	25.31	0.05	25.36	0.00	0.00	0.03	1.33	0.09	1.45	26.81
1990	23.33	0.01	23.35	0.00	0.00	0.03	1.28	0.08	1.39	24.74
1991	20.62	0.02	20.64	0.00	0.00	0.03	1.37	0.09	1.49	22.14
1992	17.96	0.02	17.97	0.00	0.00	0.03	1.58	0.10	1.71	19.68
1993	15.63	0.02	15.65	0.00	0.00	0.03	1.59	0.10	1.72	17.37
1994	14.79	0.00	14.79	0.00	0.00	0.03	1.50	0.12	1.65	16.45
1995	14.26	0.02	14.28	0.00	0.00	0.04	2.22	0.11	2.38	16.65
1996	15.83	0.01	15.84	0.00	0.00	0.05	2.39	0.12	2.56	18.39
1997	16.56	0.01	16.57	0.00	0.00	0.04	2.79	0.12	2.95	19.52
1998	10.48	0.01	10.49	0.00	0.00	0.04	1.31	0.12	1.47	11.96
1999	17.34	0.01	17.35	0.00	0.00	0.05	1.26	0.15	1.46	18.81
2000	31.11	0.01	31.11	0.00	0.00	0.05	1.24	0.14	1.44	32.55
2001	22.36	0.01	22.36	0.00	0.00	0.04	1.05	0.10	1.19	23.56

Source: Brunei Darussalam Statistical Yearbook, various issues
**Figure for 2001 is only until October 2001*

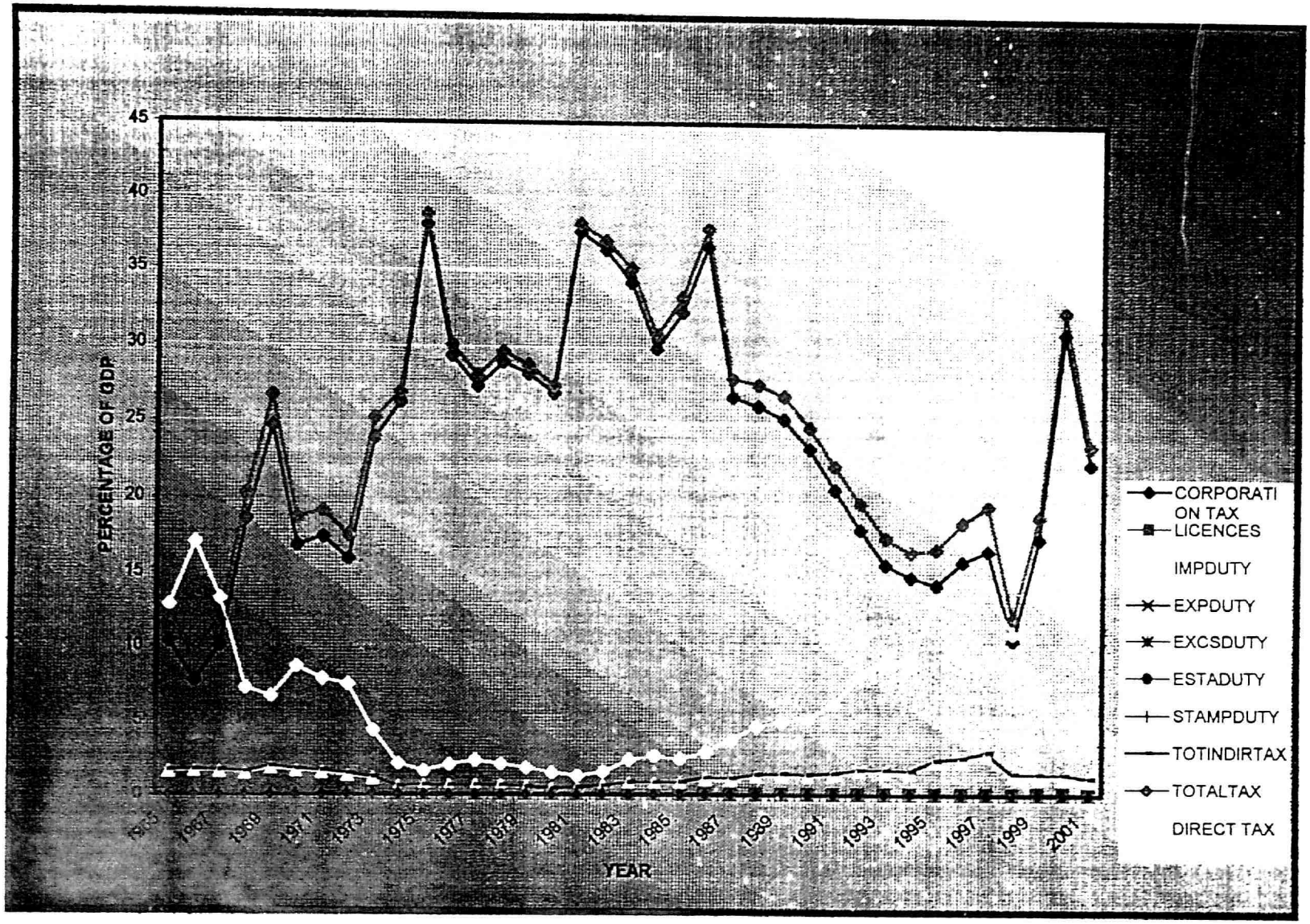

*Figure for 2001 is until October 2001 only.

There are several possibilities to how this might happen; the value of tax revenue is increased and nominal GDP remains constant; the nominal value of GDP falls and the value of tax revenue remains constant; the value of tax revenue falls but nominal GDP fall by more. As stated quite often in this chapter, oil price is the ultimate 'shocker' to the whole thing.

In 1965, the total tax effort ratio, the direct tax effort ratio and total indirect tax ratio were 12.1, 10.4 and 1.7 respectively. This somewhat low tax effort ratio continued until 1967, when total tax effort increased from 11.8 to 20.2 in 1968. In 1968, the increase in both nominal GDP and direct tax revenue and therefore total tax revenue may have been resulted by the increase in production of oil. And since the value for direct tax increased by more than the increase in nominal GDP, the tax effort ratio for direct tax increased from 11.8 in 1967 to 20.2 in 1968. The high total tax effort ratio continued the next year with 26.7 worth of effort, but fell slightly lower in 1970, 1971 and 1972 with 18.6, 19.1 and 17.5 respectively. Then initiating in 1973, with the mixture of oil price increase, oil production and the relative responsiveness between nominal GDP and total tax revenue, total tax effort increased to 25.2 in 1973 and continued to be high until 1991 with 22.1. In fact the highest ever tax effort ratio was achieved in 1975 with 38.8 worth of effort. From 22.1 in 1991, it fell to 19.7 in 1992 and continued to be below 20 until 1999 when it eventually jump to 32.6 in 2000. It continued to be above 20 in 2001 with 23.6. Since we know that total tax is almost entirely contributed by direct tax, thus the increase in total tax effort was corresponding to the increase in direct tax effort and even their values differed by only in fractions.

On the other hand, indirect taxes showed very low tax effort averaging only about 1.4 for the 37-year period. However, it did have a slight increase in 1995 until 1997, averaging 2.63 worth of effort. This situation can be explained by the changes in tax rate for import duty within this period. The other indirect taxes portrayed insignificant effort through out the period.

Let us look at other countries' tax effort ratios and compare them to NBD. **Table 5.7** exhibits the tax effort ratios for by country groups for the year 2000, with similar format as those designed in **Table 5.4**.

For the first type of tax, which is taxes on income, profits, and capital gains, the Industrial Countries exhibit a relatively significant effort with 13.16 amount of tax effort as compared to average developing countries' effort of 6.41. Africa shows the highest effort on this type of taxes, albeit insignificantly differenced, amongst its counterparts with 9.01 amount of effort. This is followed by the Middle East with 8.93. The remaining country groupings within the developing countries do not portray significant differences between them. ASEAN countries, in this case is ranked third with 6.30 worth of effort put on to these taxes. This is followed by Europe, Asia, Oil Exporting and then Western Hemisphere with 5.82, 5.30, 4.92 and 4.56 worth of efforts, respectively. NBD's effort on this tax is somewhat higher than either the Industrial Countries or the Developing Countries, with 16.60 worth of efforts. Thus, in this category of tax, we can say that NBD's effort is relatively high. Within this category of tax, the Industrial Countries put nearly five times as much effort towards individual tax than to corporation tax. On average, the Developing Countries exhibit a

Table 5.7:
Tax Effort Ratio by Country Grouping, 1997

Country group	Taxes on Income, Profits, and Cap. Gains	Individual Tax	Corporation Tax	Social Security Contrib.	Taxes on Payroll and Work Force	Taxes on Property	Domestic Taxes on Goods and Services	Gen. Sales Turnover or V.A.T.	Taxes on Internatl. Trade and Transact	Other Taxes	Total Tax Revenue
INDUSTRIAL COUNTRIES	13.16	10.14	2.52	8.92	0.54	0.61	7.69	7.11	1.03	0.27	32.33
DEVELOPING COUNTRIES											
Africa	9.01	5.07	2.87	1.73	0.06	0.47	8.35	11.72	10.73	0.23	30.58
Asia	5.30	2.00	3.30	1.00	0.00	0.20	5.70	2.70	2.80	0.60	15.70
Europe	5.82	2.81	3.01	10.8	0.72	0.13	14.53	9.05	1.76	0.12	33.88
Middle East	8.93	5.54	2.93	3.7	0.74	0.28	7.34	5.37	2.81	0.13	23.91
Western Hemisphere	4.56	1.41	2.01	1.68	0.00	0.48	14.24	11.17	4.27	1.26	26.20
ASEAN	6.30	2.23	2.97	0.16	0.00	0.53	5.51	2.71	2.19	0.73	15.42
Oil Exporting Countries	4.92	1.41	3.50	0.36	0.10	0.11	2.17	2.10	1.92	0.11	9.66
AVERAGE DEV. COUNTRIES	6.41	2.92	2.94	2.78	0.23	0.31	8.26	6.40	3.78	0.45	22.19
Brunei Darussalam	16.60	0.00	16.60	0.00	0.00	0.00	0.00	0.00	2.80	0.10	19.50

Notes: Raw data are taken from National Account Statistics (1996/1997), Statistical Yearbook for Asia and the Pacific (1998) and Statistical Yearbook for Latin America and the Caribbean (2001) and computed manually to get all the figures. See Appendix 1 for more information.

rather balanced fashion with 2.92 worth of efforts on individual tax and 2.94 worth of efforts on corporation tax. Individually, however, this is not really the case. Africa and the Middle East for example, put higher efforts on individual tax than the corporation tax, nearly twice as much. As for the other country groups, efforts are more towards corporation tax, though the gaps between both efforts are minimal. NBD, as expected has no effort on individual taxation and that efforts are put solely on corporation tax. As the matter of fact, as we can see from **Table 5.7**, no other category of tax can challenge this figure.

For the Social Security Contribution, the Industrialized Countries exhibit a relatively higher effort than all the Developing Countries either individually, or on average (2.78), except Europe (10.8), with 8.92 worth of efforts. The other country groups have significantly lower efforts on this kind of tax, ranging from 0.16 to 3.7. No tax effort is made on the Social Security Contribution for NBD.

Relatively insignificant efforts are made towards the third and the fourth types of taxation, which are, Taxes on Payroll and Work Force and Taxes on Property compared against the first two types of taxes. In this case, the Industrial Countries portray a 0.54 worth of effort towards Taxes on Payroll and Work Force and a 0.61 towards Taxes on Property. For the average Developing Countries, the figures are lower, but only just. These figures are 0.21 and 0.23 for Taxes on Payroll and Work Force and Taxes on Property respectively. Compared to the Industrialized Countries, the relatively lower efforts for Taxes on Payroll and Work Force are made by Asia, the Western Hemisphere, ASEAN and Oil Exporting Countries with 0.0, 0.0, 0.0 and

0.10 respectively. On the other hand, Europe and the Middle East exhibit relatively higher efforts on this type of tax with 0.72 and 0.74 worth of efforts, in fact higher than the Industrialized Countries. Slightly higher effort ratios could be found on Taxes on Property for the average Developing Countries. For Asia and the Middle East the tax efforts are 0.20 and 0.28 respectively. Africa, Western Hemisphere and ASEAN, the tax efforts are relatively higher than those two Developing Countries with 0.47, 0.48 and 0.53 respectively. Europe and Oil Exporting Countries, both have the lowest efforts on this type of taxes with 0.13 and 0.11 worth of efforts, respectively. For NBD, for both types of taxes no efforts are made.

For Domestic Taxes on Goods and Services, tax efforts are much higher for both Industrialized and the average Developing Countries, with 7.69 and 8.26 worth of efforts respectively. Out of these figures, 90 percent and 77 percent are efforts made on General Sales Turnover or V.A.T. This shows that more efforts are put onto this kind of tax in the Developing Countries than those put by the Industrialized ones. In fact, Europe and the Western Hemisphere made nearly twice as much efforts as those made by the Industrialized Countries. For all the Developing Countries, most of the efforts are coming from the General Sales Turnover or V.A.T. The other country groups are also making relatively higher efforts as compared to most types of taxes shown in **Table 5.7**. As for NBD, virtually no efforts are made for this kind of tax.

For International Trade and Transaction, the Industrial Countries made 1.03 worth of efforts. On the other hand, the average Developing Countries has a relatively higher effort with 3.78 worth of effort. Interestingly, Africa has more than trice than

the average Developing Countries with 10.73 worth of effort put on this kind of tax. The other Developing Countries depict some amount of efforts, and at last, NBD included with 2.8 amount of effort, which is relatively higher than Europe, ASEAN and Oil Exporting Countries. Quite similar efforts are being put onto the Other Taxes with 0.27 for the Industrialized Countries and 0.45 for the average Developing Countries. NBD has 0.10 amount of efforts put onto this kind of tax.

On the whole, the effort on total tax revenue by the Industrialized Countries is at 32.33 and the average Developing Countries with 22.19. Africa has an effort of 30.58, Asia with 15.70, Europe with 33.88, the Middle East with 23.91, Western Hemisphere with 26.20, ASEAN with 15.42 and Oil Exporting Countries with 9.66. NBD on the other hand, put 19.50 worth of effort on total tax revenue. Surprisingly, NBD's total tax revenue effort is somewhat higher than those of the Oil Exporting Countries. The patterns that exist between these country groups and NBD by type of tax are shown in **Table 5.8**.

5.5 Direct - Indirect Tax Ratio

This concept is fundamentally similar to that of the tax reliance ratio. The only difference is that via direct – indirect ratio, we are looking at the tax reliance ratio from a different view or angle. With tax reliance ratio, it is proved that NBD relied heavily on direct tax and less reliance on indirect taxes. Similar explanations of the trend can therefore be taken from **section 5.3** earlier with the respective Table and Diagram for direct and indirect tax ratio. The table and diagram are reproduced here

Table 5.8:
Characteristics of Tax Effort Ratio for Country Grouping, 1997

COUNTRY GROUP	CHARACTERISTICS OF TAX RELIANCE RATIO
INDUSTRIAL COUNTRIES	• Relatively high efforts on Taxes on Income, Profits, and Capital Gains; Social Security Contribution; and Domestic Taxes on Goods and Services. • High efforts on individual tax.
DEVELOPING COUNTRIES Africa	• Relatively high efforts on Taxes on Taxes on Income, Profits, and Capital Gains; and Domestic Taxes on Goods and Services. • More efforts on individual tax.
Asia	• Relatively high efforts on Taxes on Taxes on Income, Profits, and Capital Gains; Domestic Taxes on Goods and Services; and Taxes on International Trade and Transaction. • Slightly more efforts on corporation tax.
Europe	• Relatively high efforts on Taxes on Income, Profits, and Capital Gains; Social Security Contribution; and Domestic Taxes on Goods and Services. • Rather balanced ratio between individual and corporation taxes.
Middle East	• Relatively high efforts on Taxes on Income, Profits, and Capital Gains; and Domestic Taxes on Goods and Services. • More efforts on individual tax.
Western Hemisphere	• Relatively high efforts on Taxes on Income, Profits, and Capital Gains; and Domestic Taxes on Goods and Services. • Rather balanced ratio between individual and corporation taxes.
ASEAN	• Relatively high efforts on Taxes on Income, Profits, and Capital Gains; and Domestic Taxes on Goods and Services. • Rather balanced ratio between individual and corporation taxes.
Oil Exporting Countries	• Relatively high efforts on Taxes on Income, Profits, and Capital Gains. • Moderately more efforts on corporation tax.
AVERAGE DEV. COUNTRIES	• Relatively high efforts on Taxes on Income, Profits, and Capital Gains; and Domestic Taxes on Goods and Services. • Rather balanced ratio between individual and corporation taxes.
Brunei Darussalam	• Significantly high efforts on Taxes on Income, Profits, and Capital Gains. • Efforts only on corporation tax.

in **Table 5.9** and **Diagram 5.4.** The direct-indirect tax ratios for country groupings are shown in **Table 5.10** and **Diagram 5.5**. As we can see NBD's has a relatively higher direct-indirect tax ratio than those of the country groupings.

5.6 Tax Burden

This concept is fundamentally similar to the tax effort ratio. The only difference is that via tax burden, we are looking at the burden of tax for the population. As explained in **Chapter 2**, we have different measures of tax burden and here we look at the per capita tax as a percentage of per capita income. Based on the explanation of the tax effort ratio earlier, in a certain period, for example from 1973 to 1991, the tax burdens were reasonably high. However, if instead we look at the per capita indirect tax as a percentage of a per capita income (similar to the indirect tax effort earlier), the results would, of course, lower than the per capita tax. The reason to do this is because this may reflect the 'real' burden of taxation to the population. Since NBD does not have any income tax, and since the income tax revenue were coming out from oil, it is interesting to look at these results. Both results are presented in **Table 5.11** and **Diagram 5.6**.

From **Table 5.11** and **Diagram 5.6**, with respect to the per capita tax as a percentage of per capita income, the tax burdens were reasonably high, which implies that the burden on taxation is high. However, if we look at the per capita indirect tax, we would find very low tax burdens, highest to only 2.95 in 1997. Looking tax burden from this angle, one may feel that NBD's is very low. However, using conventional

Table 5.9:
Direct – Indirect Tax Ratio, 1965 to 2001

YEAR	DIRECT INDIRECT TAX RATIO
1965	85.9
1966	81.5
1967	85.5
1968	92.0
1969	92.6
1970	90.4
1971	91.2
1972	91.2
1973	94.9
1974	97.7
1975	98.2
1976	97.7
1977	97.5
1978	97.7
1979	98.0
1980	98.3
1981	98.6
1982	98.3
1983	97.5
1984	97.1
1985	97.3
1986	96.8
1987	95.7
1988	94.8
1989	94.4
1990	94.3
1991	93.2
1992	91.2
1993	90.0
1994	89.9
1995	85.6
1996	86.1
1997	84.9
1998	87.6
1999	92.2
2000	95.6
2001	94.9

***Source**: Brunei Darussalam Statistical Yearbooks, various issues*
**Figure for 2001 is only until October 2001*

Direct-Indirect Tax Ratio, 1965 to 2001*

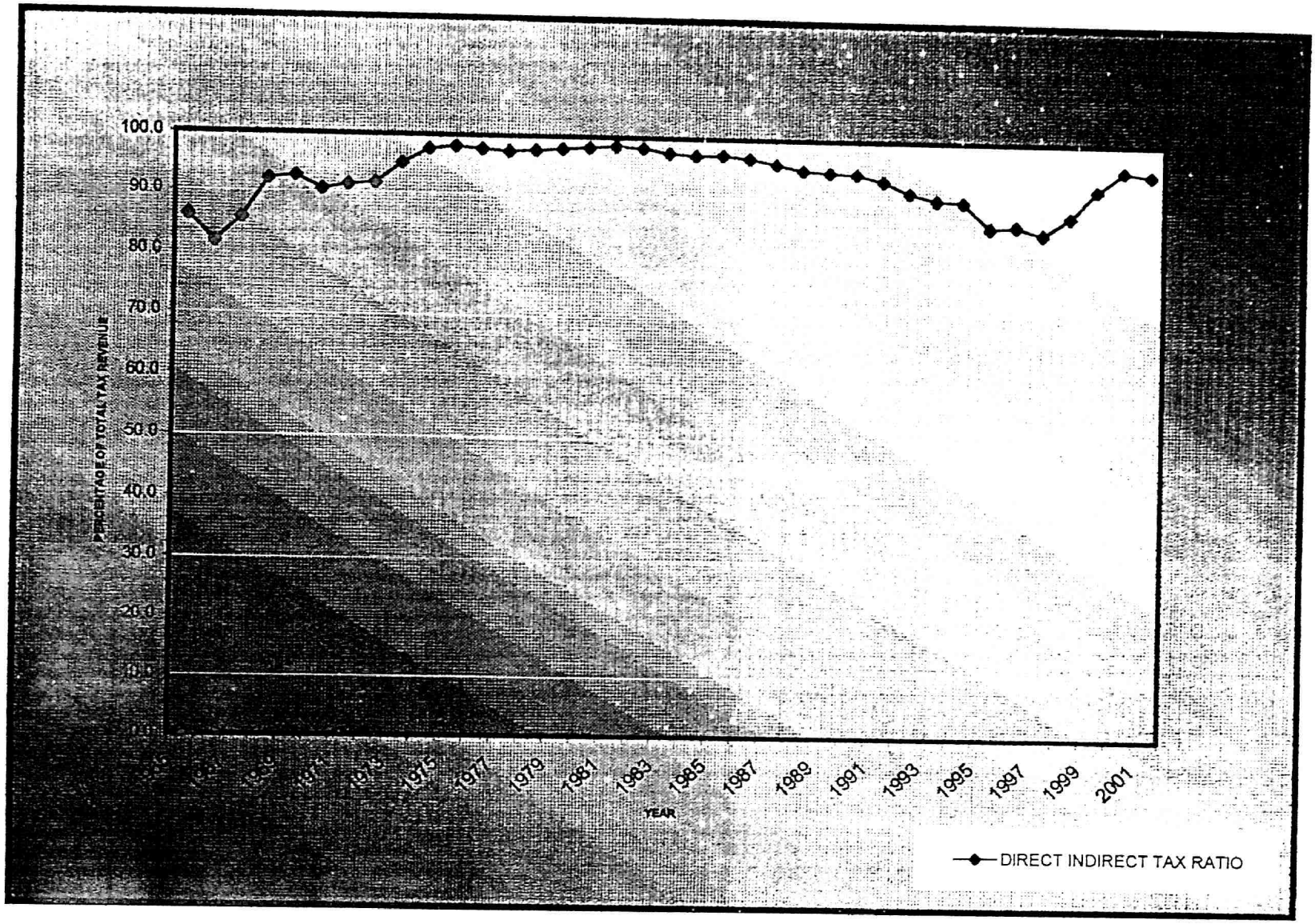

*Figure for 2001 is until October 2001 only.

Table 5.10:
Direct-Indirect Tax Ratio by Country Grouping, 2000

Country Group	Direct-Indirect Ratio
INDUSTRIAL COUNTRIES	72.43
Africa	32.52
Asia	26.33
Europe	45.87
Middle East	64.38
Western Hemisphere	33.49
ASEAN	46.53
Oil Exporting Countries	56.66
AVERAGE DEV. COUNTRIES	43.68
Brunei Darussalam	95.59

Diagram 5.5:
Direct-Indirect Tax Ratio by Country Grouping, 2000

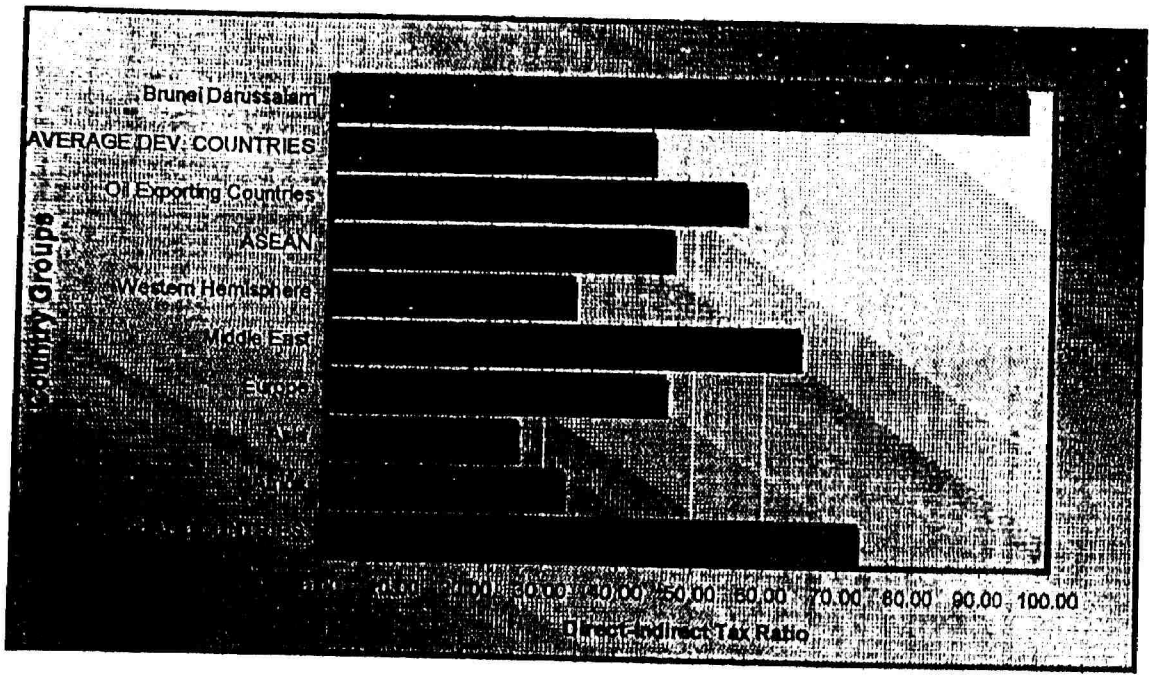

Table 5.11:
Tax Burden Ratio, 1965 - 2001

YEAR	TAX BURDEN	TAX BURDEN 2
1965	12.05	1.69
1966	9.43	1.73
1967	11.78	1.69
1968	20.22	1.59
1969	26.66	1.95
1970	18.63	1.77
1971	19.10	1.67
1972	17.52	1.46
1973	25.22	1.22
1974	26.92	0.62
1975	38.81	0.70
1976	30.05	0.68
1977	28.06	0.70
1978	29.65	0.68
1979	28.77	0.57
1980	27.42	0.45
1981	38.19	0.54
1982	37.04	0.63
1983	35.15	0.87
1984	30.82	0.88
1985	33.27	0.89
1986	37.89	1.20
1987	27.97	1.16
1988	27.57	1.40
1989	26.81	1.45
1990	24.74	1.39
1991	22.14	1.49
1992	19.68	1.71
1993	17.37	1.72
1994	16.45	1.65
1995	16.65	2.38
1996	18.39	2.56
1997	19.52	2.95
1998	11.96	1.47
1999	18.81	1.46
2000	32.55	1.44
2001	23.56	1.19

Source: Calculated from Table 5.1

Diagram 5.6:
Tax Burden, 1965 to 2001*

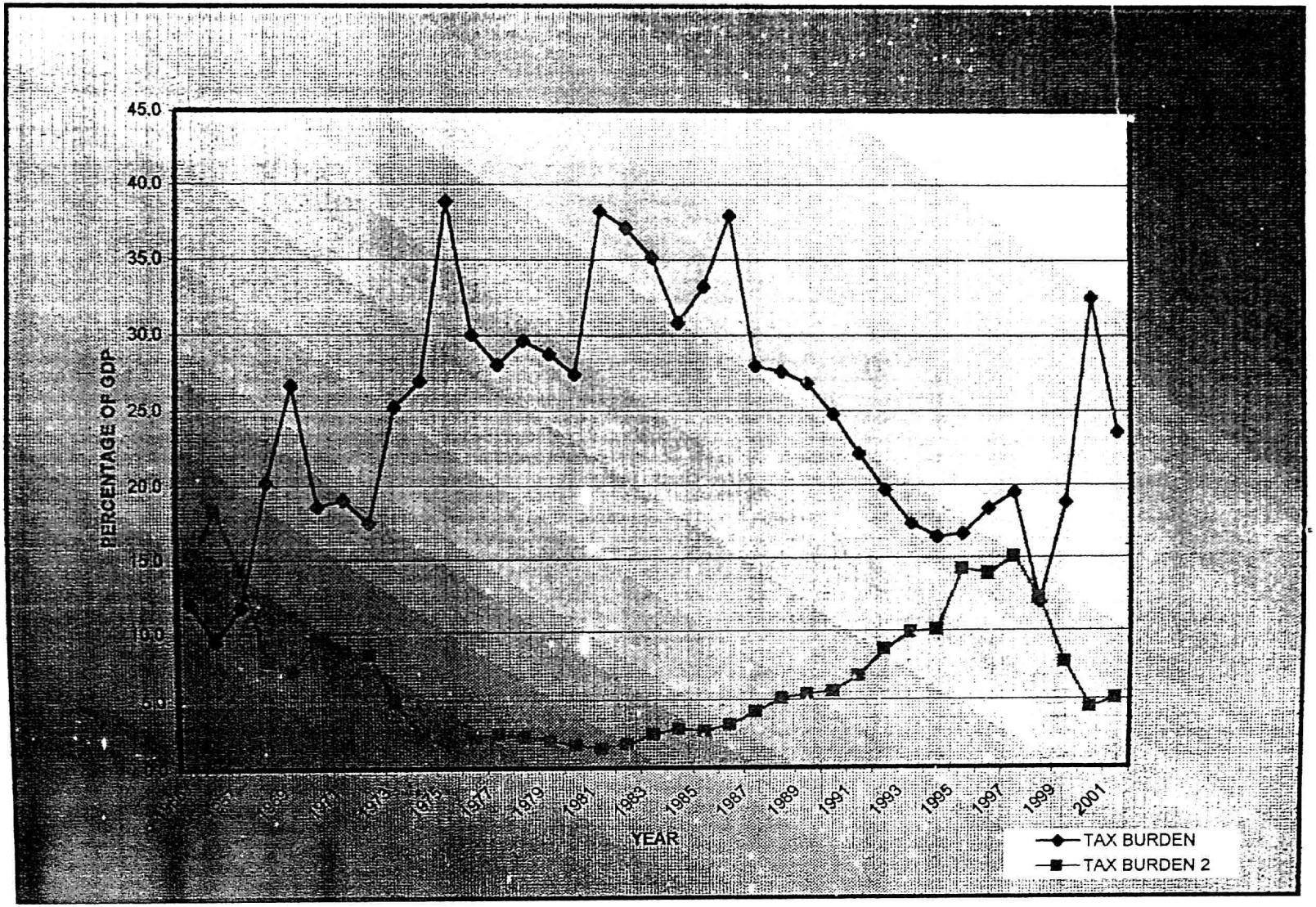

*Figure for 2001 is until October 2001 only.

definition of tax burden, comparison to other country groups it does not look that bad. Other country groups tax burden is shown in **Table 5.12** and **Diagram 5.7**. As we can see, Oil Exporting countries portray the lowest tax burden with 9.66 worth of burden.

5.7 The Buoyancy and Income Elasticity of Tax Revenue

The results of the regression to estimate the buoyancy elasticity of tax revenue in NBD are presented in **Table 5.13**. It can be noted that here, the r2 and adjusted r for export duty and excise duty fit the data very poorly. These results are quite similar to those of Obben & Manan (1996) where export and excise duty fit the data very poorly (see **Table 1.4** in **Chapter 1**). The other types of taxation exhibit better fitness with the fittest being direct tax (i.e. income tax) with 0.93 adjusted r squared. The other taxes' adjusted r2 are ranging between 0.55 to 0.83, which exhibit their moderate and good explanation to the variation in GDP. All results are significant at 5% level except for excise duty and export duty.

As we can see from **Table 5.13**, direct tax buoyancy is elastic, with the value of 1.17. This means that, for a 1 percent increase in GDP will raise income tax revenue by about 1.17 percent. The import duty has moderately inelastic buoyancy elasticity with 0.88. That is, for a 1 percent increase in GDP will raise import duty by about 0.88 percent. On the other hand, export duty buoyancy elasticity is about –0.07, which is very inelastic. The negative elasticity means that for a 1 percent increase in GDP will reduce export duty revenue by 0.07 percent. The excise duty, similar to export duty, has a very inelastic buoyancy elasticity of 0.17. That is, for a 1 percent

Table 5.12:
Tax Burden by Country Grouping, 1997

COUNTRY GROUPS	Tax Effort Ratio
INDUSTRIAL COUNTRIES	32.33
DEVELOPING COUNTRIES	
Africa	30.58
Asia	15.70
Europe	33.88
Middle East	23.91
Western Hemisphere	26.20
ASEAN	15.42
Oil Exporting Countries	9.66
AVERAGE DEV. COUNTRIES	22.19
Brunei Darussalam	19.50

Diagram 5.7:
Tax Burden by Country Grouping, 1997

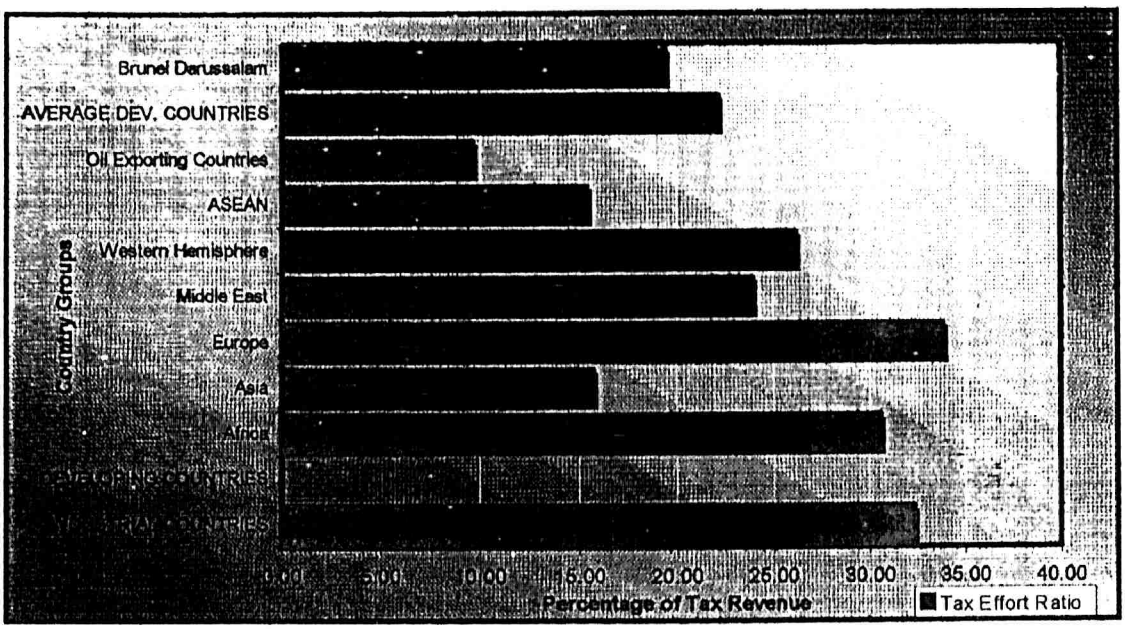

Table 5.13:
Results of Regression Models Used To Estimate Buoyancy

Dependent V.	Intercepts	ln GDP	R^2	Adjusted R^2
Direct tax				
ln *CORPOR. TAX*	-4.1110 (0.8132)	1.1710 (0.0539)	0.93	0.93
ln *ESTADUTY*	-6.2293 (1.8123)	0.8122 (0.1201)	0.57	0.55
ln *DIRECTAX*	-4.1057 (0.8130)	1.1707 (0.0538)	0.93	0.93
Indirect Tax				
ln *IMPTDUTY*	-2.6364 (1.0121)	0.8763 (0.0670)	0.88	0.83
ln *EXPTDUTY*[a]	4.2674 (17.3331)	-0.0667 (1.3217)	0.0004	-0.17
ln *EXCIDUTY*[b]	0.2993 (1.7756)	0.1781 (0.1198)	0.08	0.04
ln *STMPDUTY*	-15.4452 (1.397)	1.4419 (0.093)	0.87	0.87
ln *LICENCES*	-4.0172 (1.1742)	0.7910 (0.0778)	0.75	0.74
ln *TOTIND*	-2.5281 (1.0194)	0.8748 (0.0675)	0.83	0.82
Total Tax				
ln *TOTALTAX*	-3.7541 (0.7161)	1.1521 (0.0474)	0.94	0.94

*Notes: See **Appendix 3** for the results of the regressions.*

increase in GDP will increase excise duty by only 0.17 percent. The estate has moderately inelastic buoyancy elasticity with 0.81. This means that, for a 1 percent increase in GDP will increase estate duty by 0.81 percent. Stamp duty, is the only elastic indirect tax with 1.44. That is, a for a 1 percent increase in GDP leads to an increase in stamp duty by about 1.44 percent. This is even larger than the buoyancy for direct taxes. License's buoyancy elasticity is estimated to be about 0.79, which is a moderately inelastic buoyancy elasticity. This means that, for a 1 percent increase in GDP will raise license only by about 0.79 percent. For the total indirect tax revenue, the buoyancy inelasticity is estimated to be about 0.87, which can be considered as moderately inelastic. This means that for a 1 percent increase in GDP will only raise total indirect taxes revenues by about 0.87 percent. The total taxes revenue however, portrays an elastic nature with 1.17. That is, for a 1 percent increase in GDP will increase total taxes revenue by about 1.17 percent. Of course, this is influenced by the buoyancy elastic of direct taxes or corporation income tax.

Thus, on the whole, it is shown that in the case of NBD, we have two types of taxes, which are buoyancy elastic, and these are the income tax and the stamp duty. All the other indirect taxes portray their respective buoyancy inelastic nature, with export duty being the most inelastic and import duty being the least inelastic.

The results of the regression to estimate the income elasticity of tax revenue in NBD are presented in **Table 5.14**. It is important to note here that most of the results for the buoyancy elasticity and the income elasticity are equal because the discretionary changes have not occurred in these types of taxes. In fact, there are only

Table 5.14:
Results of Regression Models Used
To Estimate Income Elasticity

Dependent V.	Intercept	lnGDP	D1	D2	D3	D4	D1 lnGDP	D2l nGDP	D3 lnGDP	D4 lnGDP	R^2	Adjusted R^2
Indirect Tax ln *INDIRTAX**	-2.5607 (1.660)	0.891 (0.126)	-0.415 (0.327)	0.700 (0.197)	0.389 (0.287)	-0.424 (0.263)	-	-	-	-	0.93	0.92
ln *IMPTDUTY**	-1.519 (0.872)	0.793 (0.058)	-	-	1.017 (0.276)	-0.471 (0.309)	-	-	-	-	0.89	0.88
Total Tax ln *TOTALTAX**	-12.269 (4.586)	1.796 (0.350)	10.027 (4.815)	123.33 (257.6)	-163.7 (289.5)	98.224 (136.2)	-0.729 (0.362)	-7.887 (16.40)	10.401 (18.40)	-6.190 (8.60)	0.98	0.97

Notes: *See* ***Appendix 3*** *for the regression results*

3 types of taxes that experienced such changes and these include import duty, export duty and excise duty. However, for export and excise duty no computation of the income elasticity possible because there were both abolished.[1] Therefore, in **Table 5.14**, we will only show the 3 new estimations, which include income elasticity for total tax, total indirect tax and import duty. For these new estimations, all elasticity coefficients are significant at 5 percent level.

As we can see, the total indirect tax exhibits a moderate income inelastic with 0.89. This means that, a 1 percent increase in GDP will raise indirect taxes' revenue by about 0.89 percent. Import duty also exhibits similar level of income elasticity with 0.79. The total tax revenue on the other hand, portrays an income elastic with 1.80. That is, a 1 percent increase in GDP leads to an increase in total tax revenue by 1.80 percent.

To comparison between the buoyancy elasticity and income elasticity, both results are reproduced in **Table 5.15**. Then **Table 5.16** gives us the comparison between these results against those done by Obben and Manan (1996). Some interesting facts can be found in **Table 5.16**. For the corporation tax, it is more buoyant and elastic during the period between the year 1965 to 1996 (Obben & Manan's work (1996)) compared to the period between the year 1965 to 2001 (this work) in which both have no discretionary changes. From this, we may say that the corporation tax now has become less productive than before. Estate duty has also become less buoyant and less income elastic than before but with a very small

[1] See **Chapter 1** for more information on excise duty.

Table 5.15:
Buoyancy Vs. Income Elasticity
of Tax Revenue

Variables	Buoyancy Elasticity	Income Elasticity
Corporation Tax	1.171	1.171
Estate Duty	0.812	0.812
Total Direct Tax	1.171	1.171
Import Duty	0.876	0.793
Export Duty	-0.067	...
Excise Duty	0.178	...
Stamp Duty	1.442	1.442
Licenses	0.791	0.791
Total Indirect Tax	0.875	0.891
Total Tax Revenue	1.152	1.796

Table 5.16:
This Work Vs. Obben & Manan (1996)

	This Work		Obben & Manan's Work, 1996	
Variables	**Buoyancy Elasticity**	**Income Elasticity**	**Buoyancy Elasticity**	**Income Elasticity**
Corporation Tax	1.171	1.171	1.231	1.231
Estate Duty	0.812	0.812	0.840	0.840
Total Direct Tax	1.171	1.171	NA	NA
Import Duty	0.876	0.793	0.793	0.793
Export Duty	-0.067	...	-0.067	...
Excise Duty	0.178	...	0.257	...
Stamp Duty	1.442	1.442	1.323	1.323
Licenses	0.791	0.791	0.693	0.693
Total Indirect Tax	0.875	0.891	NA	NA
Total Tax Revenue	1.152	1.796	1.203	1.795

Notes: Obben & Manan (1996) did not include estate duty in the definition of direct taxes, but put it under the indirect taxes. Thus, no results are available for the total direct and total indirect taxes column and marked with NA.

difference. For import duty, the 1996's work exhibits a much lower buoyancy and income elasticity than the current work. An interesting fact that we can see is that the buoyancy is much higher than the income elasticity for the current work. This means that the discretionary changes during the current work have negatively affected the income elasticity, and with significances. These discretionary changes are included in *D3*, which consist of increase in tax rates on tobacco/cigarette, increase tax on cars and reduction of tax rates on domestic goods. It is the increase of tax rates on both tobacco/cigarette and on cars that makes import duty more buoyant. For export and excise duty, the buoyancy elasticity between the two works deferred minimally. For stamp duty, it is more buoyant and more income elastic during the current work compared to the 1996's work. Licenses follows similar pattern. The total tax revenue buoyancy and income elasticity for both works are quite similar. For both cases, we can see that the buoyancy elasticities of total tax revenue are much lower than that of their respective income elasticities. This means that, on the whole, the discretionary changes have negative effects to total tax revenue collections.

5.8 Concluding Remarks

In this chapter, we have looked at several tax performances and tested our hypotheses made clear in **Chapter 1**. By computing tax performance indicators for NBD, a number of interesting facts can be found. The trend of tax revenue for the last 37 years shows that it is influenced by direct tax, which consists of corporation income tax and estate duty. The tax reliance ratio exhibits a heavy reliance on direct tax and this reliance is much higher than those in other country groups. The effort on

this type of tax is also the highest and its figure is even higher than those in other country groups. However, on the whole, the NBD's tax effort can be considered to be included in the lower effort groups. The direct-indirect tax ratio is also very high, averaging 93.2 for the 37 years and this figure again higher than those in other country groups. The tax burden in NBD can be considered as in the lower level relative to other country groups. Quite similar results are found for the estimation of buoyancy and income elasticity to those of the earlier work done by Obben & Manan (1996). The direct taxes remain buoyant and income elastic. The indirect taxes remain less buoyant and income inelastic with the exception of stamp duty. Based on these performance indicators, we can see that direct taxes play a very important role in NBD.