

ESSAYS ON THE INDONESIAN TAX REFORM

Robert F. Conrad (Consultant)

CPD Discussion Paper No. 1986-8  
February 1986

---

CPD Discussion Papers report on work in progress and are circulated for Bank staff use to stimulate discussion and comment. The views and interpretations are those of the authors.

Essays on the Indonesian Tax Reform

by

Robert F. Conrad\*

**ABSTRACT**

The study which follows contains a report of the development of the Indonesian tax reform. Special emphasis is placed on the interaction of administrative issues and economic analysis. Chapters contain an analysis of the problems with the old Indonesian tax system and how the tax reform developed in response to the existing structure; issues in capital taxation; and the approach to the taxation of labor income. Appendices contain detailed descriptions of the old and new tax laws; special studies of specific aspects of the tax reform; and a list of members who contributed to the tax reform effort.

---

Robert Conrad is professor of economics at Emory University, Atlanta Georgia.

This PAGE blank

## ACKNOWLEDGEMENTS

Tax reform is a messy business to say the least. As Malcolm Gillis has said on numerous occasions: "No country has yet built a monument to a tax collector." If a monument is ever erected it should be in honor of Malcolm Gillis who directed the tax reform in Indonesia. His abilities to mobilize resources; organize a group of almost thirty economists, lawyers, accountants and computer scientists of every political bent in an efficient manner; persuade competing factions in a government that tax reform could work and was even in their self interest; and his great economic institution are unsurpassed. The Indonesian tax reform would not have succeeded without him.

This report is based on the combined expertise of twenty-eight experts in the field of taxation who contributed to the tax reform effort. I hope that I have reflected the views of this group in an accurate way. Any errors of interpretation are mine.

The report has been improved by comments given by the staff of CPD during a seminar at the World Bank in December 1984.

Zmarak Shalizi, my supervisor on this project, was helpful in each phase of the study. His patience and care in reading numerous drafts and making detailed comments greatly increased the quality of the report.

## INTRODUCTION AND SUMMARY

1. A new tax system was enacted by the Indonesian Parliament in December 1983. The new tax system replaces income and sales tax laws enacted by the Dutch Colonial Government, as well as all subsequent amendments. 1/ The tax reform effort was financed by the Indonesian Ministry of Finance. An international group of twenty-eight economists, computer scientists, lawyers, and accountants were responsible for the studies and the development of the initial reform proposals. 2/ The purpose of this study is to present a descriptive analysis of the tax reform project and its economic underpinnings. 3/

2. This study is divided into three major parts. The main chapters contain a description and analysis of how the tax reform group applied its collective talent to the process and design of tax reform in a developing country. Because of the emphasis placed on administrative issues, Chapter 1 contains an extensive analysis of the interaction of economic and administrative considerations which developed during the course of the tax reform effort. Chapter 2 contains a discussion of capital taxation in an open economy context and how this approach was used to develop specific proposals. Chapter 3 contains a brief description of the approach adopted for the taxation of labor income. 4/ The intent of this approach is to provide a basic framework of analysis regarding these specific issues which might be considered by other countries.

3. The appendices contain specific details of the old and new Indonesian tax laws, revenue statistics, and special studies. A comparative description of the old and new tax laws is contained in Appendix I. Appendices II-VI provide special analyses of specific topics in Indonesian taxation (tax holidays, depreciation and inflation, source rules and foreign tax credits, revenue estimating in a particular sector and incentives to issue shares of corporate stock to the public). Appendix VII contains an analysis of the adjustments necessary to accommodate the existing production sharing contracts in the oil sector. Appendix VIII contains the list of members involved in the tax reform effort.

4. The remainder of this chapter contains comments on the general approach to tax reform and the particulars of the Indonesian tax reform.

#### Economic Analysis and Tax Reform

5. Standard public finance theory includes a special role for the government. Subject to various constraints, the government is assumed to effectively behave as a price discriminating monopolist, accordingly taking into account its various own and cross price effects in the design of efficient tax policy. The results which are derived from this approach provide guidelines for empirically important parameters (e.g., cross-price elasticities for leisure and other goods) and provide basic principles for tax design.

6. For the applied economists, the art of tax design is to incorporate efficiency considerations into a tax system which can be administered and which is perceived to be fair. The application of economic principles is tempered by economically arbitrary rules (e.g.,

source rules, transfer pricing rules, etc.), institutional forces, and the resource cost of tax administration. The compromise of some efficiency considerations is inevitable. In this context an important role of economic analysis is to provide a system where trade-offs and complementarities between efficiency and administrative costs can be identified. Thus a major thrust of the current study is devoted to how administrative effects and public perceptions were explicitly included in the tax reform.

7. While specific proposals implemented in Indonesia might not be appropriate in other contexts, the following general considerations would be part of a tax reform effort in any developing country.

- i. There are clear gains from a tax administration system which is depersonalized. Almost any method of tax administration which limits the ability of tax administrators and taxpayers to bargain over taxes will enhance the viability of the system and keep corruption opportunities to a minimum.
- ii. The real advantage a government has in the taxation area is that it can capture most of its share of resources before payments are made to individuals. There will always be an incentive for individuals to avoid paying taxes but this can be altered by ensuring that a significant portion of the taxes are collected through uniform withholding methods.
- iii. In general, tax incentives (e.g., for investment) are costly to administer, and they provide a basis for claims

of discriminatory treatment. These costs must be weighed against any social gains which might accrue from such discrimination.

- iv. Where arbitrary rules are to be made (e.g., in net worth comparisons for income tax purposes), clear standards should be developed and the rules should be in the public domain.
- v. The tax system itself should be flexible and responsive to changes in the economic environment. Tax policy is not a rigid set of rules but, like any economic enterprise, a framework that must adapt to changes in the economic environment.

#### Context of the Indonesian Reform

##### The Influence of Oil

8. Growth in Indonesia has been financed in large part by changes in the relative price of natural resources and changes in the country's share of revenues from natural resource projects. 5/ This is illustrated in Figure 1, where oil and gas revenues as a proportion of GDP increase from 1.2% of GDP in 1968 to a peak of 16.0% in 1981. These revenues, combined with growth in other sectors have enabled Indonesia to enjoy an average real rate of growth in GDP of 7.3% per annum since 1968. 6/ Since 1975 the share of government spending has been in excess of 25% of GDP. 7/ In large measure, this level of government spending has been financed by oil revenues and has been used to engage in an aggressive program of development spending.

9. The increase in oil revenues has had other fiscal effects. In particular, the oil revenues have provided a revenue cushion for Indonesia which has enabled the country to de-emphasize other sources of revenue. As shown in Figure 1, the share of non-oil tax revenues as a proportion of GDP has never exceeded 9%, and this share has fallen since 1978. 8/ The de-emphasis of other revenue sources during this period is not in itself a cause for concern. If the non-oil taxation system operates efficiently, there is ample justification for decreasing the effective tax rates on labor and non-oil revenue sources when large natural resource rents exist.

10. The Indonesian non-oil tax system was not efficient in either an economic or an administrative sense. This fact, combined with the foresight of officials in the Ministry of Finance, was the basic impetus for the tax reform. It is clear from Figure 1 that efforts to collect non-oil tax revenues were negatively correlated with oil revenues. However, it was equally clear at the end of 1980 that Indonesia could not expect to benefit from oil revenues over the long run at the expense of lower tax effort in other sectors, for a number of reasons:

- i. There is some question as to whether the use of enclave revenues such as those from oil to purchase non-tradeables such as domestic services is a prudent policy. (This problem has been called "Dutch Disease" and generally occurs after a substantial change in the relative price of a tradeable commodity such as oil. This change in relative prices forces adjustment in the domestic economy (e.g., an increase in unemployment) as

the country moves to a more capital-intensive mode of production. If the absorptive capacity of the local economy is small (in the sense that the short-run supply of non-tradeables is relatively inelastic), inflationary pressures may be generated, particularly in a fixed exchange rate regime.) 9/

- ii. The non-oil tax system itself was outmoded and difficult to administer.
- iii. The reliance on one commodity for such a large share of revenues exposed the country to revenue shortfalls and windfall gains. The lack of revenue diversification, combined with the foreseen decline in oil production indicated that planning for future sources of revenue was important.
- iv. The government has committed itself to an aggressive development program. It was felt that the share of government expenditures could not decline in the foreseeable future even if oil revenues declined.

11. For these reasons, the Ministry of Finance commissioned the tax reform studies.

#### Policy Context of the Reform

12. The Indonesian tax reform was implemented to coincide with the development of the five-year plan beginning in 1984. The tax reform was one of six major policy changes made during this period. The thrust of the combined policies was to narrow projected deficits as well as to

position the economy for growth in the post-1983 period. the other policies were:

- (i) Further reduction in budgetary subsidies on domestic consumption of refined petroleum products.
- (ii) Adoption of an austere non-capital budget.
- (iii) A devaluation of the rupiah from 700 to 970 per U.S. dollar in 1983.
- (iv) A total of eight billion dollars (U.S.) in cutbacks and postponements of large capital-intensive projects.
- (v) Financial liberalization and reform via deregulation of domestic interest rates and simplification of the procedures of the Central Bank.

13. It is against this backdrop that the tax reform studies were commissioned and developed.

Table of Contents

ABSTRACT .....	ii
ACKNOWLEDGEMENTS.....	iii
INTRODUCTION AND SUMMARY.....	iv
Chapter	
I	REFORMING THE SYSTEM OF TAX ADMINISTRATION.....
	1
	Introduction.....
	1
	Sources of Administrative Problems with
	The Old Tax System Personal Income Tax.....
	1
	Business Taxation.....
	3
	Sales Taxation.....
	5
	Administrative Structure and Controls.....
	6
	Revenue Targets.....
	7
	Withholding Methods.....
	8
	Consequences and Manifestations of Problems
	in The Old Tax System.....
	10
	The Revised System of Tax Administration.....
	17
	The Overall Structure of The New Income
	Tax System.....
	21
	Business Taxation.....
	22
	Sales Taxes.....
	23
	Administrative Changes and Incentives.....
	25
	Revenue Estimates.....
	26
	Income Taxes.....
	27
	Value Added Taxes.....
	28
Chapter	
II	CAPITAL TAXATION.....
	29
	Introduction.....
	29
	Incidence of Capital Taxes.....
	29
	The Introduction of Non-Tradeables.....
	31
	Problems and Their Manifestations in
	The Old Law.....
	36
	Consequences for Investment Patterns.....
	39
	Options for Reform.....
	40
	Traditional Accrual Income Taxation.....
	41
	Properties of The Reformed Tax System.....
	42
	Depreciation.....
	43
	Debt.....
	44
	Tax Norms.....
	44
	Tax Incentives.....
	45
	Other Features.....
	45

Chapter			
III	LABOR TAXATION.....		47
	Problems and Their Manifestations in		
	The Old Tax System.....		47
	Objectives for Taxation of Labor.....		49
	Instruments Developed for Labor Taxation.....		50
	FOOTNOTES .....		53
	REFERENCES .....		66
	APPENDIX I .....		73
	APPENDIX II .....		82
	APPENDIX III .....		86
	APPENDIX IV .....		94
	APPENDIX V .....		99
	APPENDIX VI .....		112
	APPENDIX VII .....		117
	APPENDIX VIII .....		121

## Chapter I

### REFORMING THE SYSTEM OF TAX ADMINISTRATION

#### Introduction

1. The purpose of this chapter is to provide a description of: 1) the administrative problems with the previous Indonesian tax system; 2) how these problems were manifest in practice; and 3) how the problems were addressed in the reformed system.

2. Incentives for non-compliance and corruption are endemic to all tax systems. These problems include public understanding regarding the tax administration, ambiguity in laws and regulations, competence of the tax administration, and incentives created by the tax administration process for both administrators and taxpayers. Simply stated, tax systems of any type are costly to administer and to enforce. 1/ Trade-offs will always exist between the traditional economic incentives created by the tax system and the ability of the government and the taxpayer to comply with the tax rules. 2/

#### Sources of Administrative Problems with the Old Tax System Personal Income Tax

3. Under the old income tax law different "types" of income were treated differently for income tax purposes. 3/ For instance, "honoraria" were taxed at a flat rate of 10% while wages and salaries were taxed at rates ranging up to 50%. Certain types of interest income and capital gains were exempt. Dividends paid by some firms were exempt for a specified period. 4/ Certain types of other income were exempt

(e.g., earnings of chess players). Income from sources "without" Indonesia was treated differently. 5/ Finally, specific types of "in-kind" income were subject to tax. Taxable in-kind income included certain fringe benefits (cars, housing, etc.) provided by employers, and the imputed income from owner-occupied housing.

4. Two problems result from the differential taxation of various types of income. First, the different types of income must be empirically defined, and both income and expenses must be attributed to certain activities. 6/ For instance, in order to distinguish the return on initial investment from dividends or capital gains, accounting procedures and definitions are necessary. In addition, the legal definition of such income items as "honoraria", as opposed to such terms as "consulting fees", must be specified. Second, once definitions are constructed, there is an incentive for individuals to restructure transactions and to use the definitions and attribution rules to avoid (or to reduce) tax payments. For instance, wages and salaries could be merely designated as "honoraria" or interest expenses on loans used to purchase tax exempt securities could be attributed to business operations and thus be deductible.

5. These problems were exacerbated in Indonesia by the lack of uniform, publically known definitions. 7/ Accounting definitions were supposedly related to standard accounting principles. However, no independent body such as the Financial Accounting Standards Board existed in Indonesia. Thus, tax administrators had considerable

latitude in both the application of definitions as well as with respect to the definitions themselves. 8/

Business Taxation

6. Numerous (and often contradictory) business tax incentives were part of the old law. These incentives included: a) reduced rates for submitting audited returns; b) reduced rates for selling shares on the Jakarta Stock Exchange; c) tax holidays of various durations; d) accelerated depreciation; e) investment allowances; and f) incentives for expanding employment and foreign exchange earnings. Many of these incentives were negotiated between investors and the investment review board (BKPM) as part of an overall package of tax incentives and performance requirements. The presence of these incentives (and relatively rapid change in both the design and structure of the incentives) meant that firms in the same industry were taxed under different rules, and that the same firm faced a different tax regime at different points in time. 9/

7. In addition to the economic effects 10/ created by the differential incentives, numerous administrative problems were created. First, there was a lack of communication between auditors in the tax department and the Investment Review Board (BKPM). Some auditors did not know what incentives were available to firms and thus audit conflicts resulted. Second, some firms did not file returns during the tax holiday period, or simply filed blank returns. This behavior made it difficult to audit returns once the holiday period ended. 11/ Third, the tax returns themselves did not contain enough

standardized information to perform simple audit and cross-checks. 12/ The lack of standardization of simple income statements and balance sheets forced auditors to resort to the financial statements of the firms. These financial statements were not standardized and on many occasions were unaudited. Thus, cross-firm comparisons as well as intertemporal comparisons of the same firm were difficult to construct.

8. Adjustments to income were made by firms based on their perceptions of standard accounting procedures while tax auditors often had different and/or conflicting standards. The lack of standards made administration of such things as transfer pricing, capitalization, attribution of expenses difficult. Adjustments to receipts and expenses based on the "check price" method were common. Check prices (or administered prices) were used to compute import, export, and sales taxes. 13/ These prices were used by auditors (and some firms) to compute income and expenses for income tax purposes. However, check prices were also used as a policy tool to promote (or deter) imports, exports, and other types of activity, and it is not clear that these prices had any relationship to underlying economic reality. 14/ There was no known legal or accounting precedent for the use of check prices in the income taxation area. Thus, conflicts between the taxpayer and the tax administration resulted.

9. Finally, numerous businesses were either relatively small proprietorships, professional organizations (e.g., doctors), or family run businesses. A lack of business accounting appeared to be the rule rather than the exception. The non existence of uniform publically

available norms gave considerable scope to auditors in the application of income and net worth comparisons.

Sales Taxation

10. Sales taxes were imposed on three different types of transactions. 15/:

- (i) Sales taxes on manufactured items. (Tax collected on the delivery of goods by the producer.)
- (ii) Sales taxes on services (e.g. lawyers, accountants, construction, etc.).
- (iii) Sales taxes on imports.

11. Legally, the taxpayer was the provider of the good or service. The tax rates varied depending on the type of tax and the commodity. The manufacturers' sales tax rate was a maximum of 10%. The sales tax rate on services was 2.5% and the import sales tax varied from 0-80%, according to the commodity subject to tax. 16/

12. Numerous exemptions were allowed under the sales tax system for certain commodities considered essential and for "small firms". In general, the sales taxes were based on ad valorem values, although a check price was used to adjust for perceived transfer pricing problems.

13. The variance in rates across commodities and within commodity groups, depending on source (imports were taxed at rates different from those on domestic production for the same item and exempt firms were not taxed at all), increased the administrative burden on both taxpayer and administrator. 17/ Commodities had to be classified, and the source of the good had to be identified. In addition, the import tax rate and the

check price system could both be used to alter the level of domestic protection. In some cases, it was found that "check prices" were lower or higher than actual market prices for certain commodities. Thus, holding the legislated tax rate constant, the effective tax rate on such commodities was below/above that on commodities which were taxed based on market prices. Finally, there was no clear delineation of responsibility with regard to the computation and maintenance of check prices for tax purposes. 18/

#### Administrative Structure and Controls

##### Information Systems and Taxpayer Identification

14. The tax department did not own nor did it have access to modern information processing. There did not exist a master tax file nor a system of unique taxpayer identification numbers for either individuals or firms. 19/ Even with a minimal number of taxable transactions, the labor intensive receipts and cross-checking system was cumbersome and caused delays. In addition, the lack of a master tax file made it difficult to monitor estimated payments, taxpayer status (active, non-active, delinquent, etc.), and the tax administrator responsible for audits and field work. This lack of knowledge about auditors and collection agents gave substantial autonomy to individual tax administrators in determining which individuals and firms to audit and from which to increase payments.

15. Cross-checking was also difficult due to the lack of uniform standards and computer files. 20/ Auditors and taxpayers alike had to keep receipts of all taxable transactions, on a monthly and sometimes

even on a transaction basis (the MPO, described below). Potential sources of cross-checking such as import-export receipts, housing/property ownership records, and sales tax records were not used to check receipts and costs for the income tax (and vice versa).

#### Revenue Targets

16. Indonesia, like most developing countries, operated on a revenue target system. 21/ Revenue targets were determined annually by tax, region, and district. These estimates were made on an ad hoc basis and did not conform to standard receipts and revenue estimation methods. 22/ The lack of computer facilities or a master tax file, and the poor information contained on the standard tax returns made modern receipts and revenue estimation techniques impossible. 23/ Revenue targets are based on past inadequacies such as a lack of consistent receipts and revenue estimation methods.

17. While not harmful in themselves, revenue targets created a number of adverse incentives in the Indonesian context. 24/ First, the lack of internal controls made it difficult to determine whether the revenues reported in a particular category were in fact collected from that particular tax. Second, the field agents' autonomy allowed them to determine which taxpayers to select for audit or for additional collections. Third, tax district and individual performance were determined in part relative to the achievement of particular targets. Thus, when targets were reached early in the fiscal year there was little incentive for agents to report (or to collect) additional

taxes. In addition, there was little incentive for agents to properly classify reported receipts. 25/

Withholding Methods

18. With respect to income taxes, four major withholding methods were used (in addition to the final settlement):

- (i) Withholding on wages (PPd): This tax, computed monthly by employers (generally in the modern sector), was (in name) a prepayment of employee wage taxes. However, in most cases employees did not know that the tax was withheld. 26/ It appears that a significant number of employers treated the withholding as an excise tax on labor. 27/
- (ii) Withholding on Interest, Dividends and Royalties (PBDR): This withholding tax was applied at a rate of 20% 28/ on gross interest, dividends, and royalties paid by one party to another. Payment of this tax was required monthly. Exemptions to withholding included interest on bank accounts, loan payments to state banks, and payments to the government. The first 12,000 rp of such payments were exempt.
- (iii) Self-assessment (MPS): This method was used for both individuals and corporations. Payment was required monthly. In theory, the MPS was an estimated income tax payment. In practice one of two methods of calculating the tax payment was employed:

- (a) Payment of 1/12 of the previous year's income tax each month.
  - (b) Payment of 2% of gross turnover each month. However, the 2% rate was not uniformly applied and could vary across industries, anywhere from 0% to 10% of gross turnover. 29/
- (iv) The MPO: The MPO was a collection method based on gross turnover. 30/ The rate was 2% on all sales or turnover. Certain firms were designated as "collectors" and these firms were responsible for withholding the 2% tax on the value of any goods sold; maintaining records; forwarding the receipts to the tax department; and providing receipts (separate from sales invoices) to purchasers. The purchaser of the commodity (legally the taxpayer) was supposedly able to apply the MPO as a credit for income taxes due. However, the taxpayer had to keep copies of all receipts to ensure proper credit.

19. While multifaceted withholding methods are both common and desirable, the Indonesian system had two major flaws. First, the combination of the MPS and MPO could generate excess withholding. 31/ Given common perceptions of the tax administration (see paragraph 20) and the long delays in refunds, taxpayers were reluctant to pay the computed amounts of MPS. 32/ Second, the lack of cross-checking facilities and the volume of receipts (one per month per firm, one per month per employee, one per month per recipient of interest dividends

and royalties, and one per transaction in the case of the MPO) created long delays in (or nonpayment of) refunds, as well as difficulty in verifying payments.

Consequences and Manifestations of Problems in the Old Tax System

The tax administrative structure resulted in the following problems:

i. Low levels of compliance:

(a) The number of individuals registered for the self-employment portion of the personal tax had been stagnating below 225,000 for a number of years of which less than 100,000 were determined to be responsive in terms of filing returns. 33/ The number of workers covered under the wage withholding program was estimated to be less than 2 million. These figures indicate that the taxpaying population had not grown with increases in real income, labor force participation rates and general level of the population. 34/

(b) On average there appeared to be about a 10% turnover rate in the active taxpayers. That is, in order to keep the total number of active taxpayers constant, "new" taxpayers had to be increased by 10% per annum to replace those which had become inactive. 35/

- (c) The compliance rates for individuals were low by international standards. Those filing tax returns or subject to wage-withholding were less than 1% of the total households in the country. Comparable figures for the same time period in other countries were: 2.07% for India; 2.08% for Thailand; and 20% for Japan. 36/
- (d) Prior estimates of the number of potential taxpayers under the old law were about 5 million. 37/ A study performed by members of the tax reform group indicated that in 1978 the number of potential taxpayers could be as large as 8-9 million. 38/
- (e) In 1978, over 60% of those who filed returns claimed refunds in excess of 88% of the total taxes paid. However, final assessments made by the tax department showed that between 85 and 95% of the returns were assessed additional taxes averaging more than double the amount of taxes paid via withholding or prepayment. 39/
- (f) The average effective tax rate on high income persons was less than 15% for a number of years. 40/
- (g) 10-20% of a sample of corporate income tax returns filed for the 1979-1980 period were blank.

- (h) Less than 50% of the registered corporate taxpayers were considered "effective" in the sense that returns were filed and the firms were responsible to the tax department. 41/
- (i) Less than 50% of the MPO payments (the 2% tax on turnover which was a prepayment for the income tax and qualified for a credit against income tax) were ever claimed as credits for either the personal or corporate tax. Numerous MPO receipts did not contain the name of the purchaser, making MPO receipts an ineffective device for tracing potential taxpayers. In effect, a large portion of the MPO was a turn-over tax instead of an income tax withholding device. 42/ There were also indications that the MPO was a discretionary device. 43/
- (j) The withholding tax on interest and dividends had a basic exemption of 12,000 rp. In practice, this was an exemption per account and thus high income people could avoid paying additional taxes on non-wage income via multiple accounts. In effect interest and dividend withholding was a final payment when it was supposed to be a credit against total income taxes due. 44/

- (k) The number of taxpayers under the sales tax was low relative to international comparisons and recent growth in Indonesia. 45/

(ii) Perceptions of Corruption

- (a) A 1970 study by Jap Kim Sinug estimated that in 1971 the total burden of taxes (including side payments) in Indonesia was 18% of GDP compared with only 9% of GDP reported to the Tax Department. 46/
- (b) A 1979 study of the Indonesian tax system by the IMF stated: "If the taxpaying public continues to carry a heavy excess burden in the form of illicit payments ..., the scope of obtaining additional government revenue is restricted ...."
- (c) It was known in the tax departments that bargaining and illegal payments were prevalent. 47/

(iii) Low Revenue Yield

- (a) The ratio of taxes to GDP was the lowest in all ASEAN countries, particularly with respect to the individual income tax. 48/
- (b) Indonesia ranked in the lowest decile when the sample of countries was expanded. 49/
- (c) Estimates of potential revenues under the old law were at a minimum twice current levels. 50/

(iv) Perceptions of Horizontal Inequities

- (a) Certain groups (foreign firms and particular racial

groups) were perceived (and perceived themselves) as "easy targets". When revenue increases were mandated, these groups were the first persons approached for new or increased payments.

- (b) Investment incentives were not uniform for industries and firms within an industry. 51/
- (c) Government employees were not subject to income taxation on wages and salaries. 52/ This exemption created discord between taxpayers and tax collectors. 53/

(v) Perceptions of Vertical Inequities

- (a) Some types of income defined in the law were inherently difficult to measure, e.g., imputed rentals and in-kind fringe benefits. 54/ Other types of income were taxed at favorable rates, e.g., honoraria and rents. These categories of income generally accrue to individuals in the higher income groups which tended to add regressivity to the tax system.
- (b) Compliance of self-employed professionals, traders and proprietors were poor while compliance rates on wage withholding in the modern sector was relatively higher. 55/ The latter category was generally in a lower income bracket.

(vi) Administrative Difficulties

- (a) Rebates on exports (allowed under GATT) were difficult to implement because of the structure of the sales tax system and the complicated drawback system which required detailed information on products and prior taxes. 56/
- (b) There was no general criteria for exemption of small firms under the sales tax. Thus, application of the exemption rules was uneven throughout the country. 57/
- (c) Tax arrears were in the order of 50% of total taxes accrued for a number of years. 58/
- (d) Since the MPO on turnover, there was confusion about who was qualified to take the credit. 59/

(vii) There were standard norms to base presumed taxes. Local officials had discretion over the type of norm to use and their application. Thus, even-handed application of such norms as turnover, net worth comparisons, etc. was impossible. 60/

(viii) Economic Inefficiencies

- (a) Since less than half of the MPO was credited against income taxes, this tax cascaded throughout the system, creating incentives for vertical integration and driving a differential tax wedge in the price of final products. In addition, those

liable for the MPO were placed at a competitive disadvantage because of the tax. 61/

- (b) The sales tax itself tended to cascade throughout the system. 62/
- (c) The non uniform treatment of imports and domestic goods under the sales tax and the use of check prices increased the level of domestic protection. Thus, domestic firms could increase the price of imports and final products.
- (d) The lack of a comprehensive export rebate system for indirect taxes and the complicated compliance procedures put Indonesian exporters at a competitive disadvantage. 63/
- (e) Tax holidays and other tax incentives created incentives for short-term "hit and run" projects where firms ceased operations or reorganized. 64/
- (f) There was an inverse relationship between the amount of tax incentives afforded to particular projects and social profitability. 65/
- (g) The use of wage-withholding and the complicated compliance procedures in the modern sector discouraged employment relative to other sectors. 66/
- (h) Tax incentives created an incentive to substitute capital for labor. 67/

- (i) Tax incentives favor larger firms and could be considered anti-competitive. 68/

The Revised System of Tax Administration

Basic Assumptions

20. In order to provide the opportunity for a tax reform to be successful, the administrative problems of the old tax system and the public/government perception that the tax administration was poor and corrupt had to be addressed directly. The reform methodology consisted of simultaneously addressing the economic/legal/accounting issues with those of tax administration. This interaction allowed the development of a comprehensive approach to the tax reform. In response to the perceived problems, the following heuristics provided a working basis for the approach to the overall reform.

- (i) The need for Coordination Between Tax Departments.  
Indirect taxes can potentially generate valuable data for auditors in the income tax department and vice versa. In addition to cross-checking sales, receipts, costs and turnover, the departments can exchange information on registered taxpayers, active and inactive taxpayers, assessments, arrears, and other information which can be used by agents in the other departments to monitor their respective taxes. Given the potential for such a rich joint information system which could be shared, priority was given to increasing the flow of information between

tax departments and reducing redundancies in information collection.

- (ii) Rejection of Fine Tuning. It was assumed that a minimum of three to five years would be necessary to make the transition to any new tax system. It was also assumed that while the basic structure of the new laws would not be changed in the future, the particular provisions of the law would be modified periodically in response to structural changes in both the Indonesian and world economies. Emphasis was thus placed on the basic structure and how it would vary with changes in the economic environment. Fine tuning was rejected for three reasons. First, efforts at fine tuning can generate substantial uncertainty because of the incentives for particular groups to design industry-specific or other special classifications of the law. Second, fine tuning creates an artificial demand for the development of detailed rules, with a consequent demand for highly skilled labor to develop the rules. Finally, tax policy is not the only tool available to the government. Public sector pricing, monetary policy, expenditure policy, and legal/licensing policy are among other governmental instruments. Thus, it was felt that the construction of a system which was designed to raise revenue in an

efficient manner would not put undue constraints upon government policy.

(iii) Clearly Defined Objective. It was assumed that the objective of the tax system was to raise revenue for the government. That is, the use of the tax system to create incentives to encourage (or discourage) certain types of activity was rejected. 69/ The design of the tax system would be based on revenue needs, efficiency considerations, and administrative feasibility. Tax design would be developed to be as neutral and equitable (in the sense of horizontal equity) as possible. 70/

(iv) The Government as Competitor. Traditional public finance assigns a special role to the government sector. Regardless of the tax system, the government is assumed to behave, under a variety of constraints, as a price discriminating monopolist with respect to a major segment of the economy. 71/ A different approach was adopted during the reform. It was assumed that the government itself was an agent in an aggressive competitive market. The government must compete with both the private sector and international markets for skilled labor (particularly managers, accountants and senior personnel) and capital. It was further assumed that with respect to information relevant to taxation, the government did not have information superior (or even

equal to) that of other sectors. For instance, corporate financial policy, labor market conditions for specific jobs, and the market structure of particular industries is widely known to persons in the private sector. 72/ The only advantage that the government was assumed to hold was its legal ability to collect tax revenue (before payments were made to individuals) through withholding.

- (v) Reduction of Incentive Incompatibility. No private agent wants to pay taxes. Therefore, unless specific user charges on a fee per service basis are utilized, private agents seek to avoid or reduce their tax payments. Therefore, one objective of the reform was to create incentives to reduce the relative price of compliance (though not to totally eliminate evasion).
- (vi) Relative Simplicity. There is no such thing as a simple tax system. There are too many definitional problems, administrative difficulties, and adverse incentives created by any tax system to realistically claim that simplicity in anything other than a relative sense is possible. Nevertheless, relative simplicity was a goal of the tax reform.
- (vii) Depersonalization and Clear Standards. The success of any tax reform depends on the public's response and attitudes towards the structure and administration of the new system. Given the perception of corruption and poor

administration, it was felt that it would be desirable to minimize the personal contact between tax administrators and taxpayers as well as to provide a large amount of information about norms and standards to the public. The information would serve as an objective basis for taxpayers to judge their treatment under the standards, as well as to serve as a basis for appeal.

The Overall Structure of the New Income Tax System

21. The new income tax is comprised of one (and only one) body of law. 73/ That is, both firms and individuals are taxed under identical provisions and marginal rates. The lack of a distinction between sources of income (with the exception of foreign source income) eliminates ambiguity about definitions of "business" and "non-business" income for professionals and other unincorporated businesses. The same marginal rate structure was designed to limit arbitrage opportunities businesses and individuals (e.g., fringe benefits, deferred payments, and other types of compensation). No differential rates exist for capital gains, dividends, ordinary income, or other types of income.

22. The deduction structure for individuals was simplified and exchanged for larger standard deductions and personal exemptions which are indexed annually for inflation. Thus, detailed record keeping for most individuals is not required. In addition, the standard deduction/exemption structure is such that almost 90% of individuals will be exempt from taxation.

23. Items of imputed income such as the income from owner-occupied housing were simply eliminated from the tax base. No interest deductions on owner-occupied housing or consumer credit are allowed nor is there a deduction for charitable contributions. The new law contains a provision which denies a deduction for any in-kind fringe benefits paid by corporations for employees (cars, housing, etc.) but simultaneously exempts individuals from taxation of the same, thereby eliminating the previous compliance difficulty with in-kind benefits. Revenue effects will be minimal since there is limited scope for arbitrage due to the identical rate structure. Administration is less complicated since there are fewer firms than people.

#### Business Taxation

24. All tax incentives were eliminated and replaced by lower rates. Depreciation was simplified to an open-ended accounting method with four classifications, using double declining balance depreciation methods. 74/

25. Many of the administrative problems were eliminated by uniform taxation and by the elimination of certain deductions and imputations. For administrative and procedural difficulties which remain there are being developed clearly defined rules which are publicly known. For instance, accounting standards are being developed to reconcile book and taxation income. For firms, professionals, and proprietors who choose not to keep accurate books, arbitrary presumed taxable income methods will be employed. The definition of residence for tax purposes is

established as well as exemptions, deductions depreciation classifications, etc.

Sales Taxes

26. The previous sales tax system and the domestic portion of the MPO were replaced by a single consumption type value added tax (VAT) of 10%. The tax will be applied through the manufacturers' level, 75/ and a luxury sales tax will also be applied on a small, precisely defined group of income elastic commodities. 76/

27. The economic and administrative advantages of the VAT include:

- (i) Fewer incentives to promote vertical integration created by cascading;
- (ii) More accurate rebates on exports, possibly with lower administrative costs;
- (iii) Relative ease of administration.

28. The credit system will be employed in the computation of the VAT. Under this system a taxpayer will compute the preliminary taxes due by multiplying the tax rate times the total sales (on an accrual basis) for each period. Then the taxpayer will subtract all VAT paid on inputs during the period to determine the net VAT payments due. This method provides an incentive for firms to keep accurate records, since underreporting of costs will reduce credits.

29. The base of the tax was made as broad as possible and includes capital goods as well as all other inputs. Exports are zero rated so that exports will receive refunds for all VAT paid on inputs. In addition, the VAT will be uniformly applied to both imports and

domestically produced goods. This will eliminate the component of domestic protection which was part of the old sales tax system. Taxable firms are restricted to manufacturing. 77/ There is an exemption for small firms but the definition of "small firms", while arbitrary, is clear. 78/ The small firm exemption does not eliminate these firms from taxation, but only from the requirement that these firms collect VAT on their sales. 79/ Finally, only a few activities are specifically exempt from the tax. These activities are generally related to downstream agricultural processing, including livestock raising, fishing, and similar activities. However, once processing of foodstuffs is begun, the process stage will be subject to VAT.

30. It is hoped that as the economy and the administrative capacity of the tax department grow, the VAT will extend to the retail level. At this point in time, the magnitude of the one time effect on relative consumer prices for taxed goods, without the tax applying at the retail level, is unknown. The differential in effective rates across commodities will be determined by the size of retail margins. For instance, if retail margins for some goods are 50% (20%) of total value added at retail, then the rise in consumer prices for those goods will be 5% (8%). 80/ Thus, the maximum increase of any consumer price will be 10% and there will be some change in relative prices. 81/

31. It is estimated that 50% to 60% of the additional revenues generated by the reformed tax system will accrue from the VAT 82/ and that over 70% of the VAT itself will be collected either at the ports (on imports) or by Pertamina, the state owned oil company. Given this

structure of collection points, scarce administrative resources can be devoted to areas where enforcement and revenue yields will be most important.

Administrative Changes and Incentives

32. In addition to the general structure of the tax reform, several administrative changes were and are being introduced. These changes include: 83/

(i) Computerization, Identification and Information Systems

- (a) The development and distribution of unique taxpayer identification numbers for both firms and individuals.
- (b) The development of a master tax file which can be used to record payments, issue notices, and cross-check income tax records with value added tax records.
- (c) Redesign of all tax forms to enhance audit checks and to simplify compliance.
- (d) No required filing for individuals who are in the lowest tax brackets and who have no (or little) income from sources not subject to withholding. 84/

(ii) Appeals and Penalties

- (a) Increased penalties for civil servants who employ illegal tactics or take bribes.

- (b) A new appeals process which attempts to ensure taxpayer rights and provide incentives for the tax administration to be responsive in a timely manner.
- (c) Payment of interest by the government to individuals who do not receive refunds promptly and who win tax disputes.

(iii) Taxpayer Information, Withholding and Public Sector Employees

- (a) Public disclosure of all administrative regulations and decrees.
- (b) Reformed withholding methods so that firms and individuals make quarterly, instead of monthly, estimated payments, and the elimination of the MPO on domestic transactions.
- (c) Provision of annual statements of withholding to each employee from firms which withhold employee taxes.
- (d) The inclusion of public sector employees in income tax and withholding.

Revenue Estimates 85/

33. Revenue estimates for any period of time in the future are difficult to make in ideal circumstances. The lack of consistent and uniform data made this task in Indonesia more difficult. In addition, there is no "history" for a new tax system. Thus, predictions about the

future direction of tax revenues under the new regime are considered largely heuristic.

#### Income Taxes

34. Revenue estimates for the new (and old) income tax systems were for a five-year period following the passage of the tax reform law.<sup>86/</sup> In order to be consistent, revenue estimates should conform to and use macroeconomic forecasts consisting of aggregate and sectoral aggregate rates of growth, inflation rates, and other macroeconomic variables such as government spending and real per capita income. Such estimates were made by the members of the tax reform team.<sup>87/</sup> Historical revenue elasticities were then used to forecast revenues by type of tax.<sup>88/</sup>

35. Estimates of the individual income tax were based on period household surveys performed by the Indonesian Department of Statistics.<sup>89/</sup> These data contained information on average income and expenditure as well as income distribution data. Standard exemptions were applied by group and growth rates were then applied to project changes in income by group. These results were then multiplied by revenue elasticities to compute the change in revenues each year.

36. The basic methodology for the new tax system was the same. Major exceptions include new method of computing the VAT (see paragraph 38), adjustments to reflect broadening of the base, and an ad hoc phase in effect to reflect adjustments in administration. The most difficult factor to project was compliance and enforcement. For this reason several estimates were made using different assumptions and the projections were reduced by 20% to bias down the results.

37. Despite the downward bias of the estimates for the new system, the share of total taxes in GDP would rise from 17% to 20% by 1988-1989. This increase was attributable to expanded coverage of the income taxes on withholding at the source with no attribution to increased effectiveness of the tax administration.

Value Added Taxes

38. The initial data set used to compute the VAT was the 1980 Survey of Medium and Large Manufacturing. It was estimated that this sample produced almost 90% of the non-oil taxable value added in Indonesia. Adjustments were made to reflect the fact that the VAT would not extend the exemption of exports and to reflect non-taxed inputs (e.g., raw food, etc.) at the retail level. Separate calculation was made for petroleum products. 90/

39. The estimates reveal that the broader coverage of the VAT (relative to the old sales tax system) could be responsible for almost 60% of the additional revenue generated from the overall reformed tax system.

Chapter II  
CAPITAL TAXATION

Introduction

40. A discussion of the taxation of capital is contained in this chapter. The chapter contains a descriptive analysis of the basic open economy framework employed during the Indonesian tax reform, a discussion of the problems inherent in the old tax system and their manifestations, and a description of how the issues were addressed during the tax reform.

Incidence of Capital Taxes 1/

Assumptions

41. The small open economy framework provides the basis for the analysis of the incidence of capital taxes in Indonesia. In this framework, the price of tradeables and the rate of return on capital are exogenous. 2/ In addition, it is assumed that domestic labor is inelastically supplied and cannot move out of the country in response to changes in the real relative wage. Finally, production of all outputs (both tradeables and non-tradeables) in the domestic economy is governed by constant returns to scale.

One Output Case

42. Given these assumptions, a one sector model of an open economy can be examined via the price equation for tradeables:

$$P_T = s_{LT} W + s_{KT} R_D$$

where:  $P_T$  = World price of tradeables

$W$  = Domestic wage

$R_D$  = Gross of tax return to capital =  $R + Z$  with

$R$  = World return to capital

$Z$  = Per Unit tax on capital

$s_{LT}$  = Labor's share of output

$s_{KT}$  = Capital's share of output

$s_{LT} = 1 - s_{KT}$

43. Since both the world rate of return and the price of tradeables are fixed exogenously, an increase in the domestic tax on capital will (necessarily) fall on labor because:

$$dR_D = dZ(Z/R)$$

$$dP_T = s_L dW + s_{KT} dZ(Z/R) = 0 \text{ or}$$

$$dW/dZ(R/Z) = - s_{KT}/s_{LT}$$

where:  $dW$ ,  $dP$ ,  $dZ$ ,  $dR$  are measured as percentage changes.

44. This simple result is due to the fact that an increase in the tax on capital will increase the domestic gross of tax price of capital by exactly the amount of the tax (on a per unit basis). Owners of capital will reduce the domestic capital stock until the "net of tax" value of the marginal product of capital will equal the world return.

Thus, total net of tax income to the owners of capital (the return to the remaining domestic capital stock and the return to the capital that flees the tax) will not change. This reduction in the domestic capital stock will reduce the value of the marginal product of labor. Since the world price is exogenous, the only variable in the system that can respond to the change in the tax is the relative wage. In this case total labor income will fall by the amount of the tax revenue, compensated domestic demand (domestic production plus [minus] imports [exports]) will stay the same, and the quantity produced in the domestic economy will fall (i.e., imports [exports] will rise [fall]).

45. At this point note that any tax on output (compensated) will also be borne by labor. This result and the one cited above are examples of the fact that the tax will be borne by the factor that is inelastically supplied. 3/

#### The Introduction of Non-Tradeables

46. If the economy is expanded to a two sector model and capital is taxed in both sectors, then the price of non-tradeables might be affected. In order to determine this effect note that:

$$\begin{aligned} dP_N &= g_{LN} dW + g_{KN} dr_D \\ &= g_{LN} \left[ \left[ \frac{g_{KN}}{g_{LN}} \right] - \frac{s_{KT}}{s_{LT}} \right] dr_D \end{aligned}$$

Where: N = Non-tradeables

$g_{LN}$  = Labor's share of value added in N

$g_{KN}$  = Capital's share of value added in N.

47. Three cases can be distinguished. If the capital intensity in both tradeables and non-tradeables is the same then the price of non-tradeables will not change. If the non-tradeables sector is more (less) capital intensive relative to tradeables, then the price of tradeables will rise (fall). These results imply that labor will bear more than (less than) the entire tax if the relative capital intensity of non-tradeables is greater than (less than) that of the tradeables sector. 4/

48. Two factors combine to determine these incidence results. First, the wage must be determined in the tradeables sector since the price of capital and the price of tradeables is exogenous. An increase in the gross of tax price of capital will cause a comparative static increase in the marginal cost of tradeables. Since the price of output is exogenous, the wage must fall by an amount sufficient to reduce the marginal cost (after the imposition of the tax on capital) to its "pre-tax" level. Other things equal, this will imply that the capital-labor ratio in the production of tradeables will fall, leading to a fall in the value of the marginal product of labor and thus a fall in the wage.

49. With the presence of the non-tradeables sector a second factor comes into play. The fall in the wage will reduce the "pre-tax" marginal cost of producing non-tradeables. Thus, it will lead to a decrease in the price of non-tradeables, other things equal. However, since the price of capital (gross of tax) increases in the non-

tradeables sector, a compensating increase in the marginal cost of producing non-tradeables results. As shown above, the net effect on the price of non-tradeables is determined by whether the increase in marginal cost resulting from the imposition of the capital tax offsets the decrease in marginal cost from a fall in the wage. Thus, if the price of non-tradeables is not changed, labor will bear 100% of the tax. If the price of non-tradeables increases, then the real income to the owners of capital will fall and they will bear some of the tax, i.e., labor will bear less than 100% of the tax. 5/ If the price of non-tradeables falls then labor will bear more than 100% of the tax. 6/

50. In addition to these basic incidence results, the open economy framework can be used to provide other insights. First, in the absence of some type of market power, no tax imposed by the government of the open economy can be borne by non-residents. As long as the price of one output and one input is exogenous, tax exportation is impossible. Thus, tax policy is limited exclusively to the mobilization of domestic resources.

51. Second, within an open economy framework there is no means to determine the ownership of the capital stock in the domestic economy. Both foreign and domestic investors face the same world rate of return. Thus, when a tax on capital is introduced, capital will leave the country. The ownership of the capital stock which flees is not relevant for the incidence analysis, since all owners of capital will receive the same rate of return (net of tax). 7/ This result is based on either one of two assumptions: (i) neither domestic or foreign owners

of capital have a comparative advantage in making investments in the country or anywhere else in the world; or (ii) capital investments (from the perspective of the investors) in either the country or the rest of the world are perfect substitutes. Thus, policies (discriminatory or otherwise) to affect the ratio of foreign to domestic investments will either be unproductive or unstable. 8/ For instance, Indonesia and other countries tend to restrict foreign investment to certain sectors of the economy. For those sectors allocated by the government to be "exclusively domestic", domestic investors will specialize until the rate of return in the restricted sector is equal to the world rate. In this case, the ownership but not the size of the stock in these sectors will be affected. In the case where the domestic capital is insufficient to drive the rate on the protected sector down to the world rate, the country will incur a loss in output (via the lower capital stock) in the protected sector. Thus, such a policy will have either no economic effect or an adverse one. 9/

52. A third issue is raised by the fact that the ownership composition of the domestic capital stock is not determined. If we assume that foreign countries impose a tax on their residents' capital, regardless of the source of the income, and allow a credit for foreign taxes paid, then the open economy "should" impose a tax on capital (both domestic and international) at a uniform effective rate. In this case the world supply curve of capital measures the gross-of-home tax rate of return. In a world with tax credits, a host country can increase its national income (including taxes) via an imposition of a capital tax. In effect,

tax revenues are merely transferred from the treasury in the home country to the treasury in the host country, with no effect on either the level or the composition of the capital stock. 10/ The lack of a compositional effect results from the fact that host country nationals who invest abroad will pay taxes to the governments in the rest of the world. Thus, they will have no incentive to change their portfolios, as long as the host country allows a credit to its citizens.

53. Finally, in an open economy with many sectors, the imposition of capital taxes (and subsidies) will cause a variation in the effective domestic tax rate across sectors, leading in turn to both a reduction (or increase) in the size of the capital stock and a misallocation of the total capital stock across sectors. That is, sectoral effect which results from tax incentives will allocate capital to sectors in a non-neutral way, further increasing the welfare cost of the tax. Indonesia had used a variety of tax incentives to encourage investments in certain sectors. However, studies showed that while tax incentives might have been effective in inducing investments in those sectors, there also existed a negative correlation between the size of the tax incentive and social profitability. 11/ This negative correlation (and the associated welfare cost) could be avoided only by the elimination of the incentives, as long as a capital tax was imposed. Holding other tax parameters constant, the elimination of tax incentives could increase the effective tax rate on all capital to a level which might make Indonesia non-competitive. Thus, elimination of the tax incentives was tied to an overall reduction in tax rates.

Problems and Their Manifestations in the Old Law

54. A complete analysis of the problems with the old income tax law is presented in Chapter I. Only three problems relating to capital taxation are discussed here: tax incentives; accounting standards; and the standardization of information.

Tax Incentives

55. Tax incentives in the old tax law included: tax holidays of various lengths; investment allowances; reduced rates for submitting audited returns; reduced rates for offering a certain proportion of the stock to domestic nationals; incentives to increase foreign exchange earnings; and incentives to increase the level of domestic employment. It was stated above that such incentives create a variance in effective tax rates across sectors and thus a misallocation of the capital stock.

12/

56. In addition to the allocative effects, tax incentives are difficult to administer. For example, consider the case of tax holidays, which are generally claimed to be relatively easy to administer. 13/ Even if designed in a neutral manner, a tax holiday might be worthless if granted for the first years of an operation since new projects generate little or no positive cash-flow and generate tax losses instead. Thus, an administrative determination must be made with respect to the effective date of the holiday period, which would vary both across industries and across projects within an industry.

57. Second, there is the issue of how tax holidays should blend in with other aspects of the corporate tax. The issue here is whether the

tax holiday period is merely a gap in time for tax purposes where no depreciation, etc., is taken, and whether tax losses incurred prior to the holiday period should be carried through the holiday period and begin again once the holiday period is over. Alternatively, taxable income could be computed during the holiday period in the standard way and merely no tax would be paid. In this case, the benefits of depreciation and such items as tax loss carry forwards would be lost, reducing the value of the tax holiday itself.

58. Third, in order to be consistent, tax holidays would have to be provided to existing firms making incremental (or totally new) investments, as well as to new firms or investors. Without such provision a tax holiday will create incentives for multiple ownership of corporations and the churning of investments. However, costs and profit must then be attributed between existing and new operations, causing internal transfer pricing and cost allocation problems to arise.

59. Finally, the presence of non-uniform tax holidays creates the impression of discrimination against certain industries. 14/ These industries will seek either extended tax holidays or alternative incentives to offset the perceived discrimination. Problems similar to these can be listed for almost any type of incentive. 15/ Tax incentives are difficult to administer and thus the gains from the incentives must be weighed against the increased administrative costs.

#### Accounting Standards

60. In practice most income tax laws attempt to follow "generally accepted accounting principles." However, there are differences between

any practical application of accounting concepts and "economic" accounting. In some countries, Indonesia included, accounting procedures are not clearly defined. The reliance on ambiguous standards creates the potential for numerous disputes with regard to the timing of deductions (e.g., bad debts), the type of deduction (e.g., interest expense), and the size of the deduction (e.g., valuation of inputs). While reliance on generally accepted accounting principles is desirable it is necessary to develop clear (though largely arbitrary) tax rules where ambiguity exists. Clear arbitrary accounting rules did not exist under the old tax law. 16/

#### Standardization of Information

61. Related to the problem of accounting standards was the lack of uniform information received by the tax department. The first value reported on the tax form was unadjusted taxable income. There was no derivation for the computation of taxable income similar to the derivations found in the U.S. corporate income tax return or the U.S. Schedule C. The lack of standard information requirements meant that some would not report the minimum amount of information necessary to perform such simple tasks as checks for mistakes in arithmetic. Thus, in order to perform simple audit checks, a complete set of income and balance sheets was required. Firms keep accounting records in different formats, so auditors could not easily relate specific items on the financial statements with tax return information. 17/ Without standard reporting, the tax department could not develop standard methods for comparisons across firms. The variance in accounting methods also made tax forecasting for

policy analysis impossible. Finally, there was little documentation between the differences (if any) between book income and taxable income.

18/

62. Lack of standardization along with the problem of accounting standards in general, increased the administrative complexity and cost of tax administration, the number of disputes between taxpayers and tax administrators, and the time lag between submission of returns and final payment.

#### Consequences for Investment Patterns

63. The difficulties described above resulted in the following problems:

- (i) Negative correlations between the tax incentives and social profitability. (Paragraph 2.aa).
- (ii) Low tax compliance, especially for domestic firms. (Paragraph 20).
- (iii) Long and cumbersome audits.
- (iv) Long lead times between project conception and implementation because of negotiations about the size and type of tax incentives.
- (v) "Hit and run" projects (particularly in textiles and light manufacturing). The tax rules created incentives to change the composition of investment toward short-term projects which could, in extreme cases, never pay any tax.
- (vi) A large variance in the taxes paid between firms and industries, even on comparable incomes. The one which paid

higher than average taxes complained about discriminatory treatment. 19/

Options for Reform

Elimination of the Tax

64. The easiest solution to the capital taxation problem was merely to eliminate the tax altogether and to integrate capital taxation with the personal income tax. This option was never seriously considered for a number of reasons. First, by far the largest share of non-oil tax revenues was attributable to the corporation income tax paid by foreign investors. Thus, there was the risk of large revenue losses. Second, given the presence of already existing distortions in the world capital market and the foreign tax credit offered by most home countries, the elimination of the tax would, in some cases, merely transfer tax revenues from the host to home country treasury. Third, the open economy assumption combined with foreign taxation of (both domestic and foreign) capital indicated that there might be little if any change in the level of domestic investment.

Cash-Flow Taxation

65. Under a cash-flow taxation system, firms would be allowed to immediately expense all assets on a current basis. No deduction for interest expenses would be allowed, and no special accounts for such accrual items as inventories, bad debts, pre-paid expenses, receivables, and payables would be necessary. In effect, this type of taxation would eliminate the taxation of income from capital and only tax economic rent. 20/ There are a number of advantages to this system. There is no

need to adjust any accounts for inflation. 21/ Since cash-flow is computed on a current basis, inflation adjustments would be redundant. There would not be a lower number of arbitrary rules. Thus, capitalization would not be a concern since interest expense is not deductible. Allowance for bad debts, etc., would be unnecessary. Depreciation rules would not be needed.

66. These benefits would be offset by a number of costs. There might be a decrease in tax revenues, particularly in the transition years. Immediate expensing will substantially reduce the tax base in the early years of any investment. In addition, the removal of the "income" from capital (the normal return) would reduce revenues, other things equal. Home country tax authorities might not allow the tax as credit, since interest expense would not be allowed as a deduction. The tax would be at variance with current international standards and firms would have to adjust to the concept of taxation based on cash-flow. There would be (and were) complaints from the private sector about the lack of accruals and the loss of interest deductions. There might be a tendency for firms to merge (both horizontally and vertically) because of the tax shields generated by operations which have new investments.

22/

#### Traditional Accrual Income Taxation

67. This type of taxation benefits from general business acceptance of the basic concepts and conformance of the tax base with international practice. In addition, the tax will drive a wedge between the gross and net of tax returns which might maintain (or enhance) current revenues.

Complex accounting issues can be resolved via appeal to international convention. Comparisons between book and taxable income could be done in a straightforward manner. Finally, because of international acceptance and standards, information sharing between governments is enhanced.

68. The benefits of this tax must be weighed against the following costs. In order to be neutral the tax would have to be adjusted for inflation (on both the asset and liability side of the balance sheet).

23/ Depreciation must also be based on "real economic depreciation" in order for the system to be neutral. Since economic depreciation is difficult to measure, there will always be non-neutralities across certain assets and industries. 24/ International transaction problems such as thin capitalization rules and other inter(intra)-firm accruals must be addressed.

69. Finally, rules must be established which determine such things as the distinction between dividends and the repayment of invested capital when corporate distributions are made. 25/ These difficulties are not country specific, but rather they relate to the inherent difficulty in transforming the theoretical concept of income into an empirical measure.

#### Properties of the Reformed Tax System

70. The capital income taxation methods adopted in the Indonesian context represent a compromise between economic incentives and political/administrative realities. The system is a classical system where dividends and capital gains might be subject to double taxation. 26/ The system is also classical in the sense that the tax base

is an empirical measure of income (as opposed to cash-flow). Given the income based approach to the taxation of capital income, trade-offs had to be made between administrative costs and economic efficiency. These trade-offs are discussed below.

Depreciation 27/

71. Under a perfect income tax, depreciation would be equal to economic depreciation. Because of the difficulty (and cost) of developing economic depreciation measures by asset in the Indonesian context, a simplified depreciation system was developed. 28/ Open ended depreciation will be used. Under this system assets are classified into four groups (three age groups and buildings). When an asset is placed in service (taken out of service) the purchase price of the asset (the sale price of the used asset) will increase (decrease) the balance of the account. Double declining balance depreciation 29/ will be used to compute the depreciation deduction each year. This system has a number of advantages. First, the number of groups is small, making a mapping from assets to classifications simple. Second, the system will easily accommodate inflation adjustments. Third, capital gains and losses for assets in each classification are treated as ordinary income and are accounted for by changes in the remaining balance. Since only realizations from sale are recognized for tax purposes (instead of any type of adjusted basis), the difference between the "real" gain or loss is automatically included in the system. For instance, if an asset is retired and sold for which a capital gain (loss) is present, then by reducing the base of the account by the actual receipts, the difference

between the basis and sale price, i.e., the capital gain (loss), is automatically included in income. 30/ Thus, no additional basis adjustments are necessary. Fourth, the system blends well with standard accounting practice and is relatively easy to administer.

#### Debt

72. The attribution of interest expense is difficult for multinational firms for which trade occurs between related parties. Under an income tax system the cost of debt should be recognized for tax purposes, and thus a trade-off exists between the incentive to transfer price debt and the efficiency effects of allowing debt service in the computation of the base. There is no economic answer to this dilemma. 31/ To avoid abuse of the system, an arbitrary maximum debt/asset ratio will be exogenously imposed by the tax administration. This debt/asset limit will be publicly known and will be the same for all firms. 32/ All interest expenses below the maximum will be allowed as a deduction. For firms which choose to exceed the maximum, the excess interest expense (the amount above the maximum debt-asset ratio) will not be allowed as a deduction.

#### Tax Norms

73. A significant percentage of firms in Indonesia do not keep (have not kept) standard accounts. This fact is especially true for smaller, family run businesses which compose a large number of potential taxpayers, but a relatively lower percentage of potential tax revenue. In order to ensure that these firms do not escape taxation, clear arbitrary tax norms will be used. These norms (turn-over, margins,

sells, etc.) will be in the public domain to avoid conflicts between firms and tax administrators. Thus, the owner of the firm will have a choice of developing standard bookkeeping methods, while preserving the tax base. 33/

#### Tax Incentives

74. All special tax incentives have been eliminated from the new law. 34/ There will be no tax holidays, accelerated depreciation beyond double declining balance, investment allowances, etc. In exchange for the loss of these incentives, the maximum tax rate has been reduced 35/, the overall system has been simplified, and the procedures for audits have been depersonalized.

#### Other Features

- (i) No consolidated returns will be allowed. This will reduce the incentive for multiple structures and reduce the level of administrative effort devoted to audits.
- (ii) Withholding taxes will be imposed on all taxable corporate distributions, e.g., dividends and interest. (Paragraph 1.dd).
- (iii) The withholding system at the border ( a flat rate 20%) when combined with the domestic corporate tax rate, will increase the effective tax rate on foreign investments to world levels. This combination will prevent (in part) potential revenue transfers from Indonesia to home governments via the tax credit system. 36/

- (iv) Currently, no inflation adjustments will be allowed. However, the system has been designed to incorporate inflation adjustments at some point in the future.

**Chapter III**  
**LABOR TAXATION**

Introduction

75. In most developing economies the income from labor can be divided into three major groups: (i) wages and salaries from earnings in the modern sector; (ii) wages and salaries from the traditional sector; and (iii) net earnings from sole proprietorships and partnerships. The interrelated problems of taxation of each type of labor are discussed in this chapter. It should be recalled that the basic framework of the tax analysis in Indonesia was the small open economy model. In its extreme version, no taxes will be exported from the economy. Thus, the incidence of all taxes will be borne by domestic citizens and exported from the economy. Furthermore, we would expect that in general, a significant proportion of taxes on labor will be borne by the labor itself, though there are circumstances in which capital will share some of the tax burden. 1/

Problems and Their Manifestations in the Old Tax System

76. The major problems related to the old income tax system were discussed in Chapter 1. Only a brief listing of the problems related to the labor specific taxes is presented here.

- (i) There were differential tax rates on different types of income. This created an incentive for taxpayers to re-characterize income (e.g., convert ordinary income to honoraria).

- (ii) Fringe benefits were supposedly taxed at the individual level. The value of some benefits to individuals (e.g., housing, cars, etc.) was difficult to impute. Much of this type of income escaped taxation, creating perceptions of tax regressivity. (paragraph 17)
- (iii) Income from proprietorships and professional business was difficult to measure because of the lack of consistent accounting and the lack of uniform tax norms. (paragraph 2.15)
- (iv) The withholding system on wage labor was tedious and imposed unnecessary costs on firms. A form had to be completed monthly for each worker. 2/ There were no standard withholding tables and the computation of withholding was difficult (involving gross-ups and other adjustments). This substantially increased the cost of employing workers in the modern sector.
- (v) Information concerning withholding was often not reported to employees. In effect the withholding was treated as an excise tax on labor by many firms in the modern sector. Since the withholding tax on wages was basically limited to the modern sector, these procedures increased the cost of labor in the modern sector relative to other sectors. These costs combined with the tax incentives for capital in the old law created a bias toward capital intensive investments.

- (vi) Tax information systems were inadequate. Unique taxpayer identification numbers did not exist. There was a loss of about 10% in active taxpayers each year. Audit records were not standardized and could not be used as a basis for any type of comparisons among individuals.

Objectives for Taxation of Labor

77. The tax reform pursued several objectives with respect to the taxation of labor, including:

- (i) reducing the relative cost of tax compliance on the part of upper income groups;
- (ii) reducing the cost of labor (including tax administration) to firms;
- (iii) increasing the level of compliance;
- (iv) increasing the creditability of the tax department;
- (v) where possible, reducing the adverse labor supply incentives on work effort and investments in training; and
- (vi) reducing horizontal and vertical inequalities.

78. The decision about the structure of the personal income tax reflected the decisions made regarding other aspects of the total tax package. The reform was more in the tradition of a comprehensive type of tax system 3/ since there would be a manufacturer's value added tax (taxing consumption expenditure) and a classical corporate tax with withholding taxes on distributions and other "unearned" income. The direct taxation of labor portion of the reform concentrated on vertical equity aspects and broadening the coverage of higher income taxpayers.

79. Independent of preferences regarding the method of taxation (comprehensive or expenditure) the coverage of the tax should be as broad as possible given the exemption levels. The poor compliance levels for professionals, shop owners and other groups not subject to wage withholding shifted the revenue burden of the direct tax onto a relatively small segment of the taxable population. In addition, the differential taxation of certain types of income (e.g., honoraria) and the problem of fringe benefits either lowered the effective rate of taxation on total compensation (and/or expenditure). Failure to expand the coverage of the tax to a broader segment of the population and to more types of labor would continue bias against wage labor in the modern sector.

80. The desire to limit the effects of the taxation of labor indicated that lower rates would be desirable. The objective of encouraging the employment of unskilled labor in the lower parts of the income distribution combined with the administrative capacity of the tax administration indicated that a large exemption level which would eliminate a substantial segment of the population from taxation was needed,

4/

#### Instruments Developed for Labor Taxation

81. The objectives described above are incorporated into the new tax law in a number of ways. First, the uniform tax treatment of business and wage income reduces arbitrage opportunities for small businesses and professionals. These enterprises will be subject to the same tax treatment as corporations and thus will be allowed to employ

the standard tax norms in the event that accurate records are not maintained. This leaves little incentive for individuals to attempt conversion of labor earnings into either business income or capital gains.

82. Second, the uniform tax treatment of business and labor earnings enabled the adoption of a provision which exempts fringe benefits from taxation at the individual level, while not allowing deductions for such benefits at the business level. This eliminates most arbitrage opportunities for the recipients of fringe benefits. Furthermore, the revenue effects of this provision will be negligible, and total compensation levels subject to tax are more closely related to the standard of vertical equity.

83. Third, most deductions at the individual level were eliminated, and replaced by a higher exemption level. The exemption level is indexed for inflation. It is estimated that the exemption will effectively eliminate 90% of workers from taxation. Tax effects on labor force participation will, therefore, be small and firms will incur little or no tax administration costs for low-skilled labor. In addition, the tax department will be freed from processing numerous returns with little revenue yield. The relatively high exemption will increase the level of progressivity in the system.

84. Withholding systems have been simplified. Withholding will be based on a uniform 15% rate. No withholding will be required for those individuals (the majority) whose incomes fall below the exemption level. Individuals will now receive withholding statements at the end

of the year so that credits can be accurately computed, making the tax liability clear. This withholding system lowers the costs of administration on the part of firms which, in turn, reduces the cost of firms of labor (particularly lower wage workers).

85. The elimination of most deductions will make tax compliance and administration less costly since both taxpayers and administrators will be relieved of filing numerous forms and making lengthy computations.

86. Universal withholding at the source for all payments to individuals (except on interest from accounts in state banks), enables the government to collect most tax revenues during the tax year from a relatively small number of places. Thus, in most instances, the tax administration will not find it necessary to trace numerous small transactions to individuals. Finally, the withholding system will enable the tax administration to concentrate its scarce enforcement and compliance resources on less than 10% of the total population.

FOOTNOTES

INTRODUCTION AND SUMMARY

- 1/ As part of the tax reform package a new tax procedures act was passed, and a new computerized tax information system is being implemented.
- 2/ The effort was directed by Malcolm Gillis.
- 3/ For an analysis of other tax reform efforts see: Bird [1970], Musgrave [1965, 1981]; Musgrave and Gillis [1974]; Shoup [1950, 1969, 1970]; Bradford, et al. [1984]; Institute for Fiscal Studies [1978]; U.S. Treasury [1984]; and the Staff papers for the Jamaican Tax Reform at Syracuse University.
- 4/ Topics not included in the analysis include: land taxation and property taxation (where it was decided to turn the administration over to the local governments); agricultural taxation (large estates are taxed under the business tax provisions and small holders will generally be exempt from taxation); and economic analysis of the indirect tax structure (a summary of the structure and administration is included); trade taxes (for administrative reasons imports and export taxes were separated from the basic tax reform with studies on trade policy currently underway). Discussion of these issues can be found in: Bird and Oldman [1975], Goode [1984], Roskamp and Forte [1981], Due [1970], Lewis [1984] and Wang [1976] in addition to the tax reform studies cited above.
- 5/ The discussion contained here is based on Gillis [1984a] and Conrad and Gillis [1984]. Under Indonesian law all mineral rights are vested in the state. During the past decade contracts of work in hard minerals and production sharing contracts have developed in Indonesia to shift a substantial share of revenues from natural resource projects to the state.
- 6/ Gillis [1984b].
- 7/ Ibid.
- 8/ Even including oil sector revenues the share of total taxes to GDP in Indonesia is low relative to other countries. See Tait, et al. [1979].
- 9/ See Gillis [1984] and Harberger [1982] for further development.

CHAPTER I

- 1/ Simple tax systems do not exist. Rather, some tax systems are relatively more costly (in an administrative sense) than others.
- 2/ Attempts to provide economic neutrality might increase the administrative burden. For instance, if government sought to impose a comprehensive income tax then accruals of such items of income as capital gains and losses must be addressed. Since such accounting mechanisms are difficult to administer compromises are: e.g., taxation of capital gains on realization. See Bradford et al. [1984].
- 3/ For a complete listing of the provisions of the old and new tax laws see Appendix I. The source of these tables and the items discussed in the text are the tax laws themselves.
- 4/ Dividends that qualified for this exemption were those dividends paid by firms which took advantage of the "going public" incentives.
- 5/ This type of income had the opportunity to benefit from the foreign tax credit.
- 6/ From an economic perspective many attribution rules are arbitrary. See Conrad [1985 a,b].
- 7/ The problems with the lack of uniform definition might be counterbalanced by the relative ease with which taxpayers could restructure transactions reducing the effective tax rate and increasing the latitude of tax administrators in negotiating the entire tax bill. These counterbalancing effects depend on the degree of uncertainty generated by the lack of clear definitions and the relative cost of their accurate application.
- 8/ The lack of a standards body such as the FASB yielded considerable powers of rule making to tax collectors, causing taxpayers to have no independent standards to apply or to which to appeal.
- 9/ The government changed the list of priority investments and some types of incentives on an annual basis.
- 10/ See Hulten (ed.) [1983] and Chapter 2 of this text for a discussion of the economic effects of differential incentives.
- 11/ Personal interviews of tax auditors [6-81].
- 12/ The old tax returns began with "Taxable Income". Thus there was no standard format to compare the computation of income across firms.

- 13/ Edwards [9-82].
- 14/ Check prices could be adjusted easily relative to tariff and sales tax rates. The effective tax rate was a function of both the check price and the output or import tax rate.
- 15/ Cnossen [9-81].
- 16/ The import sales tax was imposed over and above the import tariffs. This practice was probably in violation of GATT [Due 8-29-81].
- 17/ Cnossen [9-81].
- 18/ One value could be used for income tax purposes, another could be used for export/import tax purposes, while a third could be used for sales tax purposes.
- 19/ There is not a "national" numbering system in Indonesia (such as the Social Security Number in the United States) which could have been used for taxpayer identification numbers. The use of multiple names by individuals also exacerbated the problem. Finally, there was no national number for firms (like the Employer Identification Number in the United States). [Sunley 8-1981].
- 20/ There was little communication between the indirect and direct tax departments. The information held by both groups is a valuable source of data for cross-checking. [Due 8-29-81].
- 21/ Musgrave and Gillis [1974].
- 22/ Generally, estimates were based on trends and sometimes local factors such as plant openings (closings). Regional targets were made independently of district targets. Thus, there was a lack of consistency in estimating methods which were reconciled via negotiation between administrative levels. [Bird 8-81].
- 23/ In addition, the general poor state of macroeconomic data and the lack of a dynamic macro model which could be used to make projections inhibited the development of receipts estimation. Revenue estimation is a static method where a sample of tax returns are used to compute average marginal tax rates and other information. Assumptions are made about changes in the composition and sources of income. Once these assumptions are made, the sample is used to "calculate" the revenue which will accrue during the next period. Receipts estimates are generally of two types. One method uses distributed lag methods to estimate the timing of tax receipts during a fiscal year. These estimates are used to project the short-term financing needs of the government, to calculate the timing of the issuance of short-term securities, and

to estimate interest income from government cash balances. The second type of receipts estimation employs medium to long-term forecasts of the economy, and estimated tax elasticities to project tax revenues over a period of time. None of the methods described above was used in Indonesia.

- 24/ To the extent that targets provide internal consistency and discipline they may be desirable [Bird 8-81].
- 25/ Sunley [8-81].
- 26/ There was no information requirement such as the U.S. form 1040 [Perry 9-81].
- 27/ In addition, the form and the computation of the amount of withholding were unduly complicated; numerous computations were required, no standard withholding tables were available, and forms had to be submitted monthly for each employee [Perry [9-81].
- 28/ In the case of non-Indonesian residents and foreign firms, this percentage could be modified by treaty.
- 29/ A prior study by the IMF concluded that the MPS was effectively a turnover tax. Muten et al. [1979]. The turnover aspect of the MPS was also confirmed by tax officials in personal interviews.
- 30/ This turnover tax was completely separate from the MPS.
- 31/ Recall the MPS could be either 1/12 of the tax liability or 2% of gross turnover.
- 32/ In theory, taxpayers could not avoid the MPO since it was withheld by another party.
- 33/ Lerche [4-82].
- 34/ Ibid. For attempts to empirically measure evasion and compliance costs in more advanced economies see Witte and Wordbury [1983]; Cloffelter [1983] and Shamrod and Scrum [1984].
- 35/ Interviews with tax officials, [7-82].
- 36/ Lerche [4-82]. These differences could not be attributable to differences in exemptions, etc. In western countries the ratios for the same time period were 54% for the U.S. and 41% for Germany. Other indicators of lower compliance rates provided by Lerche include the ratio of taxpayers to owners of TV sets as 1/15 and the ratio of taxpayers to automobile owners as 1/10.
- 37/ Lerche [4-82].

- 38/ Perry and Williamson [2-82]. These estimates were based on income distribution statistics using average exemptions and tax rates. Reports to these approximations was necessary because of the lack of data within the tax department.
- 39/ Perry [9-81]. Less than 2% of tax collections were refunded in 1978.
- 40/ Lerche [4-82] and Perry [9-81]. Average effective tax rates were computed a number of ways. Because of lack of data, the rates were generally computed as ratio of taxes paid to personal income published by other sources in the government.
- 41/ Lerche [4-82].
- 42/ Williamson [4-83]. It was conjectured that the reason for the low credit application rate for the MPO was the desire of taxpayers to keep from being identified by tax officials.
- 43/ Quale [6-81] stated that tax officials claimed the MPO was "pay as you please."
- 44/ Sunley [7-81].
- 45/ Due [9-81] and Cnossen [9-81].
- 46/ Jap Kim Sinug [1971]. It is, of course, difficult to estimate the magnitude of corruption so the estimates represent only orders of magnitude.
- 47/ Clad [7-81] and Ouale [6-30-81]. Bird [8-82] noted that the use of bargaining and illegal payments might not be perceived as unfair by taxpayers in the Indonesian context where bargaining was prevalent in all sectors of the economy. However, the scope of the activity was perceived to decrease governmental collections.
- 48/ Muten et al. [1979], p. 17.
- 49/ Tait, et al. [1975].
- 50/ Williamson and Perry [2-82].
- 51/ While non-uniform tax treatment of investments is common throughout the world and there is no implication of corrupt practices, business leaders claim that non-uniform treatment is unfair.

- 52/ Government employees were subject to taxation on imputed income, honoraria and payments from activities unrelated to their government employment.
- 53/ Perry [9-81].
- 54/ Williamson [9-1-81]. In some cases it was possible to avoid the taxation of fringe benefits, e.g., charge employees below market rent for housing.
- 55/ Williamson and Perry [2-82] and Lerche [4-82]. In addition for those higher income persons who were subject to withholding on wages the starting point for the computation of taxable income was "net of withholding tax" income and then the credit was applied.
- 56/ Edwards [7-81]. There were over 700 commodity groups subject to different drawbacks.
- 57/ Due [8-81] and Clossen [9-81].
- 58/ Williamson [4-82] and Lerche [4-82].
- 59/ Due [8-81] and [7-82].
- 60/ Summary Memo: [12-82].
- 61/ Due [8-81] and Clossen [9-81].
- 62/ Ibid.
- 63/ Edwards [7-81].
- 64/ This problem was particularly acute in fishing and textiles. The problem of hit and run firms is common when incentives such as tax holidays are present. See Thirsk [9-84].
- 65 Wells [9-83].
- 66/ Because of the complicated computations and filing requirements there was some question as to whether many firms actually did the computations. Perry [9-81].
- 67/ Gillis and Williamson [8-1-83].
- 68/ Ibid.
- 69/ This rejection of incentives included savings. While increasing the level of the domestic savings is a primary objective of the Indonesian government, the tax reform did not include any specific inducements to savings (other than the exclusion of interest from

time deposits). Retirement savings, etc., are treated in a consumption tax manner. (See Appendix I). The reform group felt that reduced rates, a broader base on consumption and relative simplicity provide some incentives for increased savings and that additional specific incentives would be administratively burdensome and open to abuse.

- 70/ Economically efficient tax incentives can be designed for specific circumstances. However, differential incentives create claims from taxpayers of special favors and a lack of equity. These claims can put the structure of the tax system into jeopardy--witness the U.S. tax reform measures of 1981 and subsequent attempts at adjustments.
- 71/ These constraints include the inability to tax leisure as in the indirect tax literature, or the imposition of uniform rate structures in the income and indirect tax literature. See Atkinson and Stiglitz [1980].
- 72/ Some information such as terms of government loans, devaluations, etc., could be known only in the government creating the potential for moral hazard with respect to taxation.
- 73/ Specific provisions of the new tax law are found in Appendix I.
- 74/ This method is simple to index for installation if and when indexation is introduced. Sunley [6-82].
- 75/ Due [9-81] and [9-82] as well as Cnossen [9-81] claim that the manufacturer's VAT was best suited for the current conditions in Indonesia. Certain distributors might be included, depending on the technical and economic relationships between manufacturers and distributors. These modifications were made to cope with the problem created by a manufacturer's VAT for firms to create private brands and sole distributors [Poddar 8-8-83].
- 76/ The luxury sales tax was introduced to add progressivity to the sales tax system and to increase the revenue elasticity of all sales taxes.
- 77/ Manufacturing is defined to include natural resource production and processing.
- 78/ A small firm is defined to be any firm with annual turnover of less than US\$24,000 U.S. or with total capital of less than US\$10,000.
- 79/ This exemption might have some adverse incentives such as lowering prices for small firms putting larger firms at a competitive

disadvantage and having small firms split into two or three firms when the taxable threshold is reached. [Due 9-82].

80/ It should be emphasized that the price increase is a one time increase and should have no effect on the long-term rate of inflation.

81/ Given the cascading in the old system it is not clear whether goods with relatively high effective VAT tax rates will even experience relative price increases.

82/ See Chapter 1.

83/ The items listed below are only a few of the administrative changes made during the tax reform. See Gillis and Conrad [1984] and the specific law for details. The administrative changes were contained in a separate law which was passed as part of the reform package.

84/ Individuals exempt from filing may do so in order to obtain refunds.

85/ The discussion below is based on a series of memos produced by the members of the tax reform team including: Gressel [9-81]; Dapis [6-82, 6-83], Conrad and Dapis [6-83] and Gillis [9-83].

86/ Technically, receipts estimates were made since economic aggregates were used and no tax return information was used either corporate or individual.

87/ The general method employed is described in Dapis [6-83].

88/ Rates of growth were used and then the percentage changes were converted to both nominal and real values. Calculations were made for fifteen sectors/taxes.

89/ The latest data available at the time was for 1980.

90/ For basic methodology see Appendix V.

CHAPTER II

- 1/ This analysis is based on Harberger [7-81]. See also Hartman [1985 a,b].
- 2/ An economy will violate these conditions if it is either completely closed to the rest of the world (i.e., both the current and capital accounts are zero), or the country has some type of market power with respect to either tradeables or capital goods. Harberger [1962] presents the classic closed economy case.
- 3/ In effect, the incidence question is really a type of Henry George tax, where the incidence of any tax will be borne more (in a relative sense) by the factor (or agent) that has the least elastic supply (or demand) curve.
- 4/ This result assumes that capitalists do not have a preference for either tradeables or non-tradeables relative to labor.
- 5/ Recall that nominal income to capital will remain unchanged once the capital stock adjusts. Thus, an increase in the relative price of non-tradeables induces substitution effects for capitalists in their role as consumers which will reduce their real incomes.
- 6/ In this case the fall in the relative price of non-tradeables will increase the real income of capitalists relative to labor. Note also that a uniform value added tax will not in general be neutral since the imposition of the tax will cause capital and labor to reallocate across sectors and thus change the capital labor ratio, both across sectors as well as for the economy as a whole.
- 7/ If capitalists who are domestic nationals reduce their investments in the country after a tax increase, then the return to foreign investors will not be affected. In addition, the domestic nationals who reduce their investments will not have their incomes reduced. It simply does not matter which owners (or combination of owners) respond to the change in the tax.
- 8/ This fact is qualified in the case of complete closure of the economy. Differential risks might affect the composition of investment. However, even with risk incorporated into such models, the risk adjusted supply of capital will still be perfectly elastic.
- 9/ Also, the political objective would be achieved only if domestic nationals were not "front-men" for foreign investors.
- 10/ Conrad and Gillis [1984].

- 11/ Wells [6-83] and Hart [1985]. See Appendix III also. The methodology used in these studies employed standard project evaluation techniques where shadow prices for goods were calculated and cash flows constructed. For a review of these techniques see Jenkins and Harberger [1984].
- 12/ Hart [1985]. Effective tax rates could vary from zero for firms which ceased operation before the end of tax holidays (and still have a competitive return) to in excess of 60% for firms which did not benefit from any tax incentives and paid full taxes.
- 13/ Appendix III contains a discussion of the conditions for neutrality. In general, a uniform tax holiday will not be neutral, biasing investments toward short-term projects. See Thirsk [1984].
- 14/ This would occur even if the holiday were neutral. It is difficult to explain to the textile industry that in a neutral world they should get a two year tax holiday while the steel industry's holiday is ten years. Such variation will always result in claims of discrimination.
- 15/ An exception would be an investment allowance which allows a portion of the asset to be immediately expensed. However, to ensure neutrality, a proportional reduction in the interest expense would be required, creating additional administrative problems. Harberger [1979]. For an analysis of various tax incentives see Boadway [1979].
- 16/ Chapter 1., p. 20.
- 17/ Chapter 1, p. 22.
- 18/ It is standard to require a statement which reconciles book and taxable income. This statement is valuable as a first check on the accuracy of the return and any sources of variation. For example see U.S Form 1120.
- 19/ Based on a sample of 200 corporate income tax returns for the 1979-1980 period.
- 20/ Musgrave [1959].
- 21/ For an analysis of the effects of inflation on investment decisions see Auerback [1978, 1981].
- 22/ This was not a particular problem in Indonesia, but would be for a country such as the United States.

- 23/ Harberger [7-82] presents one method to adjust tax accounts for inflation.
- 24/ For an attempt to empirically measure economic depreciation see Hulton and Wykoff [1981].
- 25/ In the United States dividends are defined with respect to the "Earnings and Profits" accounts. These accounts have different rules from those employed in the income tax law (and perhaps even from book accounting rules). If a distribution is made and earnings and profits are positive then the distribution is defined to be dividend. If the earnings and profits account is zero then the distribution is deemed to be a repayment of the initial investment and thus not taxable. In this case the payment will reduce the basis for any subsequent realized capital gain or loss.
- 26/ Double taxation will only occur in the case of domestic citizens. Foreign citizens will generally have the ability to obtain tax credits. See McClure [1979].
- 27/ See Appendix III for a numerical analysis.
- 28/ Sunley [7-82].
- 29/ Under this method, if an asset has an eight year life then 25% of the remaining balance is depreciated each year.
- 30/ In cases where sale reduces the balance below zero, the difference is included in ordinary income and the basis is placed at zero.
- 31/ See Conrad [1980 and 1985] a, b.
- 32/ That is, no recognition of the variance in capital structure will be attempted.
- 33/ Arbitrary norms by their nature don't allow for tax losses. Thus, firms will have an incentive to keep books for loss purposes. Once they are included in this classification of taxpayer (i.e., those who keep books), they will generally remain in that class.
- 34/ The depreciation system may provide some special incentives depending on the rate of inflation. See Appendix III.
- 35/ The rate reduction and loss of incentives should be approximately revenue neutral. Gillis [9-84].
- 36/ Withholding taxes are creditable. It is not possible to establish a system where a host government can capture all the benefits of the foreign tax credit. Firms may have excess or deficits of tax credits from other investments of which the host

government would not be aware. The adjustments made in the tax reform to domestic and withholding rates are generally standard and represent no attempt to fine the system.

CHAPTER III

- 1/ This would be the case if the relative price of non-tradeables rises in response to a change in the relative price of any input. See the analysis summarized in Chapter 3.
- 2/ The form itself was over thirty lines long. Perry [9-81].
- 3/ The use of comprehensive or expenditure type taxation is still a source of debate in academic and policy circles. See Pechman [1977, 1980] and Break [1984].
- 4/ It was estimated that under the old law, the tax administration could not handle the number of tax returns which would be filed if there were more complete compliance, Meuten et al. [1979]. Since many of these returns would generate small amounts of revenue, the cost of administration would be greater than the revenue gains.

REFERENCES

- Auerbach, Alan J. "Inflation and the Choice of Asset Life." Working Paper No. 253, National Bureau of Economic Research, Inc. July, 1978.
- \_\_\_\_\_, "A Note on the Efficient Design of Investment Incentives." Working Paper No. 483, National Bureau of Economic Research, Inc. June 1980.
- \_\_\_\_\_, "Inflation and the Tax Treatment of Firm Behavior." American Economic Review 71(2) [May 1981]: 419-23.
- Bird, Richard M. Taxation and Development: Lessons from the Colombian Experience. Cambridge: Harvard University Press 1970.
- \_\_\_\_\_, and Oliver Oldman. Readings on Taxation in Developing Countries. 3rd. ed. Baltimore: Johns Hopkins University Press, 1975.
- Boadway, Robin W. Public Sector Economics. Cambridge: Winthrop, 1979.
- Bradford, David F. and the U.S. Treasury Tax Policy Staff. Blueprints for Basic Tax Reform, 2nd ed. Arlington, Virginia: Tax Analysts 1984.
- Break, George F. "The Jamaican Income Tax System: A Framework for Policy." Staff Paper No. 12: Jamaica Tax Structure Examination Project, October 1984.
- Clotfelter, Charles T. "Tax Evasion and Tax Rates: An Analysis of Individual Returns." Review of Economics and Statistics, LXV(3) [August 1983]: 363-373.
- Conrad, Robert F. "Taxation and Foreign Investment in the Non-Fuels Minerals Industry." A Report Prepared for the Office of International Affairs, Office of Tax Analysis, U.S. Department of the Treasury, December, 1980.
- \_\_\_\_\_, "Interjurisdictional Taxation and Attribution Rules: An Economic Analysis." Unpublished. Emory University, 1985a.
- \_\_\_\_\_, "Separate Accounting Versus Formulary Apportionment: What Can Positive Economics Say?" The Energy Journal. (forthcoming), 1985b.
- Cnossen, Sijbren. The Indonesian Sales Tax. [Kluwer, Deventer, 1973].

- Due, John F. Indirect Taxation in Developing Countries. Baltimore: Johns Hopkins Press, 1970.
- Gillis, Malcolm. "Economic Growth in Indonesia: 1950-1980". Development Discussion Paper No. 146, Harvard Institute for International Development. [March 1983]
- \_\_\_\_\_, "Micro and Macroeconomics of Tax Reform: Indonesia". Development Discussion Paper No. 174, Harvard Institute for International Development. [July 1984]
- \_\_\_\_\_, and Robert F. Conrad. "The Indonesian Tax Reform of 1983." Development Discussion Paper No. 162, Harvard Institute for International Development. [January 1984]
- Goode, Richard. The Individual Income Tax. Washington: Brookings, 1976.
- \_\_\_\_\_, Government Finance in Developing Countries. Washington: Brookings, 1980.
- Harberger, Arnold C. "The Incidence of the Corporation Income Tax." Journal of Political Economy, LXX [June 1962]: 215-240.
- \_\_\_\_\_, "Dutch Disease: How Much Sickness, How Much Boon?" Resources and Energy. 5(5), 1-20.
- Hartman, David G. "The Welfare Effects of a Capital Income Tax in an Open Economy." Working Paper No. 1551, National Bureau of Economic Research, Inc. [January 1985a]
- \_\_\_\_\_, "On the Optimal Taxation of Capital Income in the Open Economy." Working Paper No. 1550, National Bureau of Economic Research, Inc. [January 1985b]
- Hofstra, Hendrik. "Tax Policy in Indonesia: Final Report." Washington: International Monetary Fund, 1969.
- Hulten, Charles R., ed. Depreciation, Inflation, and the Taxation of Income From Capital. Washington: The Urban Institute, 1981.
- \_\_\_\_\_, and Frank C. Wykoff. "The Measurement of Economic Depreciation." in Hulten, Charles R. ed. Depreciation, Inflation, and the Taxation of Income From Capital. Washington: The Urban Institute, 1981.
- Institute for Fiscal Studies. The Structure and Reform of Direct Taxation. London: George Allen and Unwin, 1978.

- Jenkins, Glenn P. and Arnold C. Harberger. "Cost-Benefit Analysis of Investment Decisions". Unpublished (Harvard Institute for International Development, 1982).
- Muten, Leif, et al. "Non-Oil Taxation in Indonesia." Washington: International Monetary Fund, 1979.
- Lewis, Stephen R. Taxation for Development. New York: Oxford University Press, 1984.
- McLure, Charles E., Jr. Must Corporate Income Be Taxed Twice. Washington: Brookings, 1979.
- Musgrave, Richard A. The Theory of Public Finance. New York: McGraw-Hill, 1959.
- \_\_\_\_\_, A Revenue Policy for Korea's Economic Development. Seoul: Nathan Economic Advisors Group, 1965.
- \_\_\_\_\_, Fiscal Reform in Bolivia. Cambridge: Harvard Law School, 1981.
- \_\_\_\_\_, and Malcolm Gillis eds. Fiscal Reform for Colombia. Cambridge: Harvard Law School International Tax Program, 1971.
- Pechman, Joseph A. ed. Comprehensive Income Taxation. Washington: Brookings, 1977.
- \_\_\_\_\_, What Should Be Taxed: Income or Expenditure. Washington: Brookings, 1980.
- Roskamp, Karl W. and Francesco Forte. Reforms of Tax Systems. Detroit: Wayne State University Press, 1981.
- Shoup, Carl M. et al. Report of Japanese Taxation. Tokyo: General Headquarters, Supreme Commander [1950].
- \_\_\_\_\_, The Fiscal System of Venezuela: A Report. Baltimore: John Hopkins Press, 1969.
- \_\_\_\_\_, The Tax System of Liberia. New York: Columbia University Press, 1970.
- Slemrod, Joel and Nikki Sorum. "The Compliance Cost of the U.S. Individual Income Tax System." Working Paper No. 1401, National Bureau of Economic Research, Inc. July 1984.
- Siong, Jap Kim. De Indonesische Vennootschapsbelasting. Kluwer, Deventer, 1971.

Tait, A.A., et al. "International Comparisons of Taxation for Selected Developing Countries." IMF Staff Papers, [March 1979]: 123-56.

Thirsk, Wayne. "Jamaican Tax Incentives." Staff Paper No. 9: Jamaica Tax Structure Examination Project, August 1984.

U.S. Treasury. "Tax Reform for Fairness, Simplicity and Economic Growth." Washington: U.S. Treasury Department, 1984.

Wang, N.T. Taxation and Development. New York: Praeger, 1976.

Witte, Ann D. and Diane F. Woodbury. "The Effects of Tax Laws and Tax Administration on Tax Compliance." Working Paper No. 83-1, Department of Economics, University of North Carolina at Chapel Hill, February 1983.

REFERENCES

Tax Reform Group Internal Memoranda

The references below are memoranda written during the course of the tax reform effort by members of the tax reform team. Only those documents cited in the text are listed. A complete listing of documents can be obtained from the Harvard Institute for International Development.

Bird, Richard. "Revenue Targets." [8-28-81]

Clad, J. "Administrative Issues." [7-81]

Conrad, Robert F. "Revenue Estimates Under the New Regime." [6-83]

\_\_\_\_\_, "Report on the Jakarta Stock Exchange." [8-81]

\_\_\_\_\_, "Tax Incentives for 'Going Public'." [8-20-81]

\_\_\_\_\_, "Tax System Analysis: Proposal for a Modest Initial Effort." [8-81]

Cnoosen, Sijbren. "Note on Sales Tax Administration." [9-81]

\_\_\_\_\_, "Sales Tax and MPO Collections: 1980/81." [9-3-81]

\_\_\_\_\_, "Sales Tax Policy." [9-81]

Dapis, David. "First Run Public Savings Scenarios." [8-82]

Due, John F. "The Value Added Technique in a Manufacturers' Sales Tax." [8-26-82]

\_\_\_\_\_, "Taxation of Services Under a Manufacturers' Sales Tax." [8-27-82]

\_\_\_\_\_, "Operational Aspects of a Manufacturers' Sales Tax Using the Value Added Techniques." [8-30-82]

\_\_\_\_\_, "The MPO." [9-81]

\_\_\_\_\_, "The Sales Tax and the MPO." [8-29-81]

\_\_\_\_\_, "The Sales Tax and Related Levies: Summary Statement." [8-24-82]

- \_\_\_\_\_, "The Exclusion of Small Firms From Sales and Related Taxes." [9-81]
- Gillis, Malcolm. "Calculation of Value Added Tax Revenue." [8-83]
- \_\_\_\_\_, "Estimated Tax Revenues Under the Existing and Reformed Systems." [8-83]
- \_\_\_\_\_, "Revenue Estimates for Repelita IV." [8-22-83]
- \_\_\_\_\_, "Income Tax Reform: Implications for Productions Sharing Contracts in Oil: Summary." [8-2-82]
- Edwards, Sebastian. "Export Certificates." [9-14-82]
- Gillis, Malcolm and Cheryl Williamson Gray. "Ammunition for Tax Reform: Improvements in Income Taxation." [8-31-83]
- Gressell, Dan. "Incidence of Taxation in Indonesia: 1978." [9-81]
- \_\_\_\_\_, "Preliminary Projection of Public Savings: 1981-1982." [9-12-81]
- Harberger, Arnold C. "On the Indexation of Business Income Taxation." [9-10-82]
- \_\_\_\_\_, "Tax Incidence in an Open Economy." [8-82]
- Lerche, Dietrich. "Efficiency Criteria and Cost of Indonesian Taxation." [4-82]
- Perry, Guillermo. "Statistics on PPD-PPK and Administration Performance." [9-91]
- \_\_\_\_\_, and Cheryl Williamson Gray. "Potential Number of Personal Income Taxpayers, Taxable Income and Tax vs. Present Figures." [2-82]
- Poddar, Satya. "Treatment of Sole Distributors and Private Branders Under a Manufacturers' VAT." [8-8-83]
- \_\_\_\_\_, "Matters of Interpretation and Other Special Issues Under the VAT." [8-23-83]
- Quale, Andrew. "The MPO." [6-81]
- Rosenbloom, H. David. "Application of Proposed New Indonesian Income Tax to Pertamina Contracts." [7-18-83]
- Sunley, Emil. "Revenue Estimating." [8-5-81]

- \_\_\_\_\_, "Masterfile." [8-3-81]
- \_\_\_\_\_, "Taxpayer I.D." [8-3-81]
- \_\_\_\_\_, "Alternatives for Depreciation." [8-82]
- \_\_\_\_\_, "The PDBR." [7-20-82]
- Williamson Gray, Cheryl. "Tax Arrears Statistics." [8-82]
- \_\_\_\_\_, "The MPO - a Direct or Indirect Tax?" [9-82]
- \_\_\_\_\_, "Taxation of Fringe Benefits." [9-82]
- Wells, Lou. "The Investment Allowance." [9-3-82]
- \_\_\_\_\_, "Tax Incentives." Various dates.

No Author

- "Brief Summary of Selected Issues Regarding the Personal Income Tax,"  
[12-82]

**APPENDIX I**

**A Comparison of The Provisions of The Old and New  
Tax Laws, and Some Revenue Data**

TABLE 1 - Direct taxes

A. Individual Income Tax

PROVISION	NEW LAW	OLD LAW
Taxpayers	All residents and non-residents earning income in Indonesia, including civil servants, but excluding diplomatic personnel and representatives of certain international organizations.	Individuals residing in Indonesia are resident taxpayers. An Indonesian citizen residing outside Indonesia may be regarded as a non-resident taxpayer. Civil servants and diplomatic personnel are excluded.
Definition of Income	All realized accretions to wealth except for interest on time deposits and other exemptions.	Income is the total amount of money or money value earned in a year from business, property, and rights to periodic payments. This includes investment income, except for interest on certain time deposits. Fringe benefits are taxed under various special rates. For example, leave and education allowances, the use of a company automobile, company housing, work clothes, and meals are all subject to special provisions. Furthermore, a distinction is made between management and non-management employees with regard to what is considered taxable income.
Worldwide or Indonesian Source?	Non-residents are taxed only on income from Indonesian sources. Residents are taxed on worldwide income, but are eligible for credit for foreign taxes paid. Non-residents are taxed on gross income, whereas residents are taxed on gross income minus allowable deductions.	Resident taxpayers are taxed on worldwide income, though credited for taxes paid in other countries on foreign source income. A non-resident is taxable only on income derived from Indonesian sources.
Tax Rates	First Rp. 10 million - 15%. Next Rp. 40 million - 25%. Excess above this - 35%.	Progressive rates ranging between 5% on annual income below Rp. 240,000; to 50% on income above Rp. 18 million. These rates are applied to the taxable income of the taxpayer, subject to various adjustments and credits. The rates and allowable deductions are amended annually.
Income Exempt from Taxation	Interest on time deposits. Fringe benefits received in kind. Gifts unrelated to business. Inheritances. Payments from insurance companies. Others.	Interest on certain time deposits. Capital gains.
Individual Deductions	Rp. 960,000 for the individual taxpayer. An additional Rp. 480,000 for a married taxpayer. An additional Rp. 960,000 for a wife who has	Approved business or occupational expenses. Contributions to a recognized pension fund and workers' social insurance. Life insurance premiums.

Income from business that is unrelated to the business of her husband or another family member.  
An additional Rp. 480,000 for each family member by blood or marriage in a straight line who is a full dependent, up to 3 individuals per family.  
These deduction levels are indexed for inflation.

#### Withholding

Employers withhold taxes on wages, salaries, honorariums, etc., paid to employees. Government agencies and pension fund organizations do likewise.  
Corporations withhold 15% of domestic payments of dividends, interest, rent, and royalties, and 20% of such payments abroad.  
The portion of income subject to withholding each month is that which exceeds one-twelfth of income exempt from tax.  
An individual who has no income other than work income subject to withholding is not liable for any further income tax than that which is withheld, i.e., he needn't file a tax return.

Rp. 240,000 for the individual taxpayer.  
An additional Rp. 240,000 for each legal wife.  
An additional Rp. 120,000 for each related dependent and foster child, up to a maximum of 5 per family.

Employers withhold on wages and salaries. Companies withhold taxes on dividends, interest, and royalties.  
If the recipient is a resident the withholding is considered an advance payment of income tax. If the recipient is a non-resident, the withholding is a final tax.  
The withholding rate is 20% on dividends, interest, and royalties. The interest on foreign-based loans is withheld at a 10% rate.

TABLE 1 - Direct Taxes

B. Corporate Income Tax	
PROVISION	NEW LAW
<b>Taxpayers</b>	Resident and non-resident organizations earning income in Indonesia, including corporations, partnerships, foundations, and cooperatives.
<b>Subject of Tax</b>	All realized accretions to wealth except for interest on time deposits and other exemptions.
<b>Worldwide or Indonesian Source?</b>	Non-resident companies are taxed only on income from Indonesian Sources. Resident companies are taxed on worldwide income, but are eligible for tax credits for foreign taxes paid.
<b>Tax Rates</b>	First Rp. 10 million - 15%. Next Rp. 40 million - 25%. Excess above this - 35%.
<b>Income Exempt from Taxation</b>	Interest on time deposits. Intercompany dividends between firms related in business, provided the recipient owns at least 25% of the value of the issued shares of the payee. Foundation income that is earned from business exclusively in the public interest and foundation income from capital to the extent that such income is used exclusively in the public interest.
<b>Business Deductions</b>	Normal operating costs, including materials costs, wages and salaries, bonuses, honoraria, interest, rent, royalties, travel costs, and taxes other than corporate income tax. Interest is only deductible up to specified debt-equity ratios. Depreciation and amortization. Contributions to approved pension funds. Losses from the sale or transfer of property
<b>Old Law</b>	Corporations, companies, partnerships, and cooperatives earning income in Indonesia. Companies in certain fields are subject to a corporate income tax which differs in various ways from the normal system.  All profits of a business enterprise (including capital gains) are taxable, whether or not they are distributed to shareholders.  Resident companies are taxed on worldwide income, though credited for taxes paid in other countries on foreign source income. A non-resident is taxable only on income derived from Indonesian sources.  Taxable profit up to Rp. 25 million - 20% Next Rp. 50 million - 30% Balance of taxable profit - 45%. Concessional rates are available for firms which use a Public Accountant. Reduced rates are also available for firms that have certain percentages of their shares sold publicly.  Interest on certain time deposits. Certain income during tax holidays. Under tax treaties with some countries, dividends may be exempt from a corporation's taxable earnings if the dividend is paid from foreign source income. Dividends from an Indonesian subsidiary to its Indonesian parent.  Normal operating and organization costs, also, interest and royalty expenses, bad debts, insurance premiums (paid to domestic companies), certain pension contributions, and obsolete or damaged inventories. Capital losses and costs of increase in capital. Depreciation and amortization. Exchange losses. Charitable contributions.

and/or rights owned and used in business.  
Business profits of a cooperative from business activities exclusively from and for members.

**Business Costs which may not be Deducted**

Dividends  
Formation of or an addition to reserves, except in designated cases.  
Insurance premiums, unless they are paid by an employer and treated as income of the employees.  
Fringe benefits, except for housing in certain remote areas.  
Excessive compensation for work performed, paid to stockholders, or parties with a special relationship.  
Gifts, support payments, inheritances, and contributions.  
Corporate income tax.  
Expenditures subject to depreciation.

**Depreciation:**

**Depreciable Property**

Tangible property used in business with a useful life of more than one year, except land.

**Groupings of Assets**

Class 1: Depreciable property not in the Building Class with a useful life of not more than 4 years.  
Class 2: Depreciable property not in the Building Class with a useful life between 4 and 8 years.  
Class 3: Depreciable property not in the Building Class with a useful life of more than 8 years.  
Building Class: Buildings and other immovable property, including additions, improvements, and alterations.

**Method**

Bonuses.  
Expenditures subject to depreciation.  
Formation of or an addition to a reserve fund.  
Interest on own capital.  
Corporate income tax.  
Profit distributions.

Land, buildings, equipment, and other assets with a limited useful life. This includes purchase, erection, improvement, or alteration of these assets. Also, costs of obtaining, collecting, and conserving profits, where such expenditures relate to a period of several years. Luxury furniture and fixtures, and guest homes are not eligible for depreciation. Expenditures for the right of ownership to land aren't depreciable, though other rights connected with land are depreciable (if they have limited useful lives.)

Assets with similar depreciation periods may be formed into subgroups.

Straight line with vintage accounting.

Double-declining balance with open-ended accounting, with the following annual rates:  
Class 1: 50%  
Class 2: 25%  
Class 3: 10%  
Building Class: 5% .

Carry over of unused depreciation

Not allowed.

Operating Loss Carry Forward

Losses may be credited against income for up to 5 years in general, and, in certain cases, up to 8 years.

Withholding

Corporations withhold 15% of domestic payments of dividends, interest, rents, and royalties, and 20% of foreign payments. MPO (assessment for MPS (self-assessment) and MPO (assessment for others) on imports and transactions with government agencies).

Calculation Norms

Small businesses (with gross receipts under Rp. 60 million) may calculate net income for tax liability from calculation norms instead of keeping full books.

Incentives

None.

Allowed subject to certain restrictions.

Losses in the first 6 years of operation may be carried forward indefinitely. Losses occurring after the first 6 years can be carried forward 4 years.

Corporations withhold 20% on dividends, interest, and royalties. If the recipient is a resident firm the withholding is considered an advance payment on corporation income tax. If the recipient is a non-resident, the withholding is a final tax. Interest payments on foreign-based loans are subject to 10% withholding. MPS and MPO systems for withholding on business income.

Not Applicable.

Various incentives for investment in priority sectors, including:

- An investment allowance of 20% in the first year, and 5% in each of the 3 succeeding years.
- Tax holidays.
- Concessional tax rates for firms which have a certain percentage of their shares sold publicly.
- Reduced tax rates for firms that submit returns audited by Public Accountants.
- Accelerated depreciation.
- Lower tax rates for certain increases in foreign exchange accruals.
- Exemption from certain import and export duties.

TABLE 2 - Indirect Taxes

PROVISION	NEW LAW	OLD LAW
Type of Tax	A tax credit value-added tax (VAT) of the consumption type. Tax liability = (VAT rate x taxable sales) - Vat paid on purchases, i.e., a firm can credit taxes paid on all inputs (including capital goods).	Sales tax.
Parties Subject to Tax	Manufacturers (and some wholesalers) upon sale and importers upon importation.	Producers of goods (manufacturers), providers of services, and importers.
Parties Exempt from Tax	Firms with annual turnover less than Rp. 24 million or total capital less than Rp. 10 million.	Not applicable.
Transactions Subject to Tax	Any delivery of a manufactured good (including imports) and construction services.	Delivery of goods by producers. Provision of services by entrepreneurs and professionals. Entry of goods into Indonesian custom regions.
Transactions Exempt from Tax	Delivery of goods designated as non-manufacturing: growing crops, raising livestock, fishing, drying or salting food, packaging in the normal course of wholesale and retail trade, and preparation of food or drinks in a restaurant or hotel by a catering business. Provision of services, except for construction services. Exportation.	Delivery or importation of certain essential goods.
Tax Rates	10% on all taxable goods and services, whether imported or domestic. 0% on all exports.	10% on manufactured goods, less for semi-essential goods, and 0% for essential goods. 2.5% on services. On imports the tax rate varies between 0% on essential goods and 80% on luxuries.
Refunds or Carry Over	If VAT paid on purchases exceeds VAT on sales, firms may carry over the difference to future periods or be eligible for a refund.	Not applicable.
Purchases Not Subject to Tax Credit	Purchases from firms not registered as taxable firms. Purchases not directly related to the process of manufacturing the good or service. Purchase and maintenance of a sedan, jeep,	Not applicable.

TABLE 2 - Indirect Taxes

Provision	New Tax	Old Law
Type of Tax	Sales tax on luxury goods.	
Parties/Transactions Subject to Tax	One point in the chain between production and distribution of certain designated luxury goods.	Not applicable.
Parties/Transactions Exempt from Tax	Firms with annual turnover less than Rp. 24 million or total capital less than Rp. 10 million. Exports.	Not applicable.
Tax Rates	10% - 20% .	
Refunds	A firm that exports a luxury good may request a refund of the tax paid at the time of purchase of the luxury good.	Not applicable. Not applicable.

INDONESIAN TAX REVENUES AS A PERCENTAGE OF TOTAL

	1972/1973	1973/1974	1974/1975	1975/1976	1976/1977	1977/1978	1978/1979	1979/1980	1980/1981	1981/1982	1982/1983	1983/1984
<b>TAXES ON INCOME</b>												
Income Tax	8.60	6.52	3.52	4.19	4.31	4.09	4.08	2.89	2.00	2.05	2.89	3.44
Corporate Tax	10.10	9.65	8.10	8.43	6.51	7.02	7.56	5.79	5.46	5.54	6.74	6.53
Corporate Tax on Oil	65.73	67.93	78.84	77.34	78.52	77.37	77.05	83.04	85.29	85.42	81.62	82.03
Withholding Tax	10.56	11.06	6.35	6.22	7.24	8.04	7.76	5.68	5.27	5.08	6.41	5.41
Property Tax	5.01	3.82	2.35	2.30	2.10	2.12	2.11	1.39	1.06	0.94	1.05	1.14
Other	0.00	1.02	0.84	1.52	1.32	1.36	1.45	1.20	0.95	0.98	1.29	1.45
<b>TAXES ON DOMESTIC CONSUMPTION</b>												
Sales Tax	28.75	33.10	53.30	52.22	51.10	48.86	44.99	35.78	36.24	34.99	41.90	41.38
Excises	37.17	37.14	47.07	42.02	40.89	47.95	51.47	60.76	59.75	61.28	54.52	55.62
Other Oil Revenue	25.10	22.50	-9.88	-0.55	5.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Miscellaneous	8.98	7.26	9.51	6.31	2.86	3.19	3.54	3.46	4.01	3.73	3.58	3.00
<b>TOTAL NON-TRADE TAXES</b>	75.12315271	72.79845543	82.28153910	85.27132851	84.79875938	85.72233090	85.59403146	87.04969660	90.43415092	92.52370287	93.02828244	93.41202010
<b>TRADE TAXES</b>												
Import Duties	54.31	52.21	53.51	56.58	60.74	59.56	50.31	37.57	47.25	60.39	62.47	60.77
Sales Tax On Imports	21.15	20.31	22.98	23.72	24.20	23.98	21.38	16.28	20.58	25.15	27.65	27.88
Export Tax	24.54	27.48	23.51	19.71	15.07	16.46	28.31	66.16	32.17	14.46	9.88	11.35
<b>TOTAL</b>	100	100	100	100	100	100	100	100	100	100	100	100

INDONESIAN TAX REVENUES

	1972/1973	1973/1974	1974/1975	1975/1976	1976/1977	1977/1978	1978/1979	1979/1980	1980/1981	1981/1982	1982/1983	1983/1984
<b>TAXES ON INCOME</b>												
Income Tax	301.10	510.70	1234.50	1558.30	2029.20	2515.90	2996.30	5129.30	8230.3	10100.30	10009.90	11605.10
Corporate tax	25.90	33.30	43.40	65.30	87.40	103.00	122.20	148.10	164.20	207.20	288.80	398.80
Corporate tax on Oil	30.40	49.30	100.00	131.30	132.10	176.50	226.50	297.10	417.60	559.10	674.50	757.40
Withholding tax	197.90	346.90	973.30	1205.20	1593.40	1946.50	2308.70	4259.60	7019.60	8627.80	8170.40	9520.20
Property tax	31.80	56.50	78.40	97.00	117.00	202.30	232.50	291.30	433.50	513.00	641.90	628.10
Other	15.10	19.50	29.00	35.80	42.60	53.30	63.10	71.40	87.20	94.50	105.20	132.40
		5.20	10.40	23.70	26.70	34.30	43.30	61.80	78.20	98.70	129.10	168.20
<b>TAXES ON DOMESTIC CONSUMPTION</b>												
Sales Tax	125.90	168.00	161.90	234.40	322.10	376.20	491.40	537.20	732.90	888.00	1137.40	1390.10
Excises	36.20	55.60	86.30	122.40	144.60	183.80	221.10	192.20	265.60	310.70	476.69	575.20
Other Oil Revenue	46.80	62.40	76.20	98.50	131.70	180.40	252.90	326.40	437.90	544.20	620.10	773.20
Miscellaneous	31.60	37.80	-16.00	-1.30	16.60	12.00	17.40	18.60	29.40	33.10	40.70	41.70
	11.30	12.20	15.40	14.80	9.20							
<b>TOTAL NON-TRADE TAXES</b>	427.00	678.70	1396.40	1792.70	2351.30	2892.10	3487.70	5666.50	8963.20	10988.30	11117.30	12995.20
<b>TRADE TAXES</b>												
Import Duties	141.40	253.60	300.70	309.50	421.50	481.70	587.00	843.00	948.10	887.90	835.40	916.50
Sales Tax On Imports	76.80	132.40	160.90	175.10	256.00	286.90	295.30	316.70	448.00	536.20	521.90	557.00
Export tax	29.90	51.50	69.10	73.40	102.00	115.50	125.50	137.20	195.10	223.30	231.00	255.50
	34.70	69.70	70.70	61.00	63.50	79.30	166.20	389.10	305.00	128.40	82.50	104.00
<b>TOTAL</b>	568.40	932.30	1697.10	2102.20	2772.80	3373.80	4074.70	6509.50	9911.30	11874.20	11982.70	13911.70

## APPENDIX II

### Tax Holidays

#### Introduction

Indonesia offered tax holidays of various lengths under the old income tax law. The length of the tax holiday depended on the type (minerals, textiles) and the location (outside large cities). The purpose of this note is to examine the incentives created by the tax holidays and to offer some comments on the use of this tax instrument.

#### Tax Holidays Can be Neutral

It is generally accepted that tax holidays create non-neutral incentives (see below). However, tax holidays can be designed to be neutral. To see this, consider two types of firms: Type I firms have short-lived investments while Type II firms have long lived investments. In order to keep the analysis simple, the following assumptions will be made: (1) no uncertainty; (2) each firm has constant annual cash flows; and (3) each firm employs the same discount rate.

Competition will ensure that the present value of all marginal projects will be equal to zero net of tax. Assuming continuous discounting the present value of any project will be:

$$PV_i = I_i + (1-k) R_i/r \{1 - e^{-rT_i}\} = 0$$

where.  $PV_i$  = Net of tax present value

$R_i$  = constant annual revenue

$r$  = discount rate

$T_i$  = length of project with  $T_1 < T_2$

$k$  = income tax rate

$I_i$  = investment cost

$i = 1, 2$

The introduction of a tax holiday will affect the present value by reducing the front end taxes, i.e.,

$$PV_i^* = -I_i + [R_i/r] \{ (1 - e^{-rT_i^*}) + (1-k) (e^{-rT_i^*} - e^{-rT_i}) \}$$

where:  $T_i^*$  = Tax holiday period .

In order for the tax holiday to be neutral, the length of the holiday must be chosen so that the reduction in the present value of taxes per dollar of investment is the same. That is, neutrality in this case is defined to be an equal percentage increase in the wealth of each investor in the marginal project. This implies that the effect of the tax holiday is equivalent to an equal decrease in the discount rates for all projects.

For instance, if Type I projects last 5 years and the discount rate is 10% and Type II projects last ten years and get a five-year tax holiday, the Type I projects will have to get a tax holiday of 2.81 years. If the discount rate is increased to 20% then the tax holiday for Type I projects would be equal to 3.1 years.

Comments

While it is possible in theory to compute neutral tax holidays, there are numerous problems with the procedure. First, the government must know the present values and discount rates project by project. Therefore, the information requirements cannot be satisfied in practice.

Second, the incentives created by arbitrary uniform rules will favor short-term investments relative to long-term investments. In addition, incentives are created to churn projects, i.e., a five year tax holiday will induce a series of five year cut and run projects. This type of incentive might hamper capital accumulation over the long-term.

Third, most projects have periods of start-up where cash-flows are negative because of construction and periods where output begins at low levels increasing through time to some steady state level. This implies that tax loss carry-forwards are generated during these periods. Thus, even if the tax holiday period is defined to begin at the date of commercial production, the incentive effects of the tax holiday period might be decreased due to the large tax loss offsets. Some countries have sought to offset this negative impact by allowing tax loss offsets (and even such items as depreciation) to carry over to the end of the tax holiday period. In this case two consequences can occur: (1) the present value of the tax loss carry forwards are further reduced because of the further delay in realizations; and (2) the firm may pay little or no taxes during the entire life of the project because of the combination of tax loss carry forwards and the tax holiday.

Fourth, tax holidays are not easy to administer. In order to be effective they have to be co-ordinated with other provisions of the tax law. The degree of coordination is important because of the tax loss carry forward issue (discussed above) and the computation of taxable income during and after the holiday period (e.g., is depreciation to be taken during the tax holiday or is the tax holiday period to be treated as a hole in time where the firm links taxable income during the construction and start-up phase directly with the post holiday period.)

Fifth, in order to be non-discriminatory, incremental investments by existing firms generally get tax holidays (in addition to granting tax holidays for new firms). This fact raises the administrative problem of attributing income between new and old projects within the firm. Even a requirement that new investments be made via new corporations does not eliminate this problem because the firm is seeking to maximize the present value of all investments net of tax, independent of corporate structure. Thus, attribution incentives remain.

In summary, tax holidays are not the simple policy tool that they are perceived to be and they create incentives which might not encourage enhanced capital formation. If capital formation is enhanced, intersectional allocative incentives remain which generate an efficiency cost to the economy as a whole.

### APPENDIX III

#### Open Ended Depreciation in the Indonesia Context

##### Introduction

Declining balance-open ended accounts will be required under the proposed depreciation rules for the Indonesian Income Tax. The purpose of this memo is to provide a method of evaluating these proposed rules relative to the measurement of effective income tax rates (measured in terms of the spread between the gross of tax and net of tax growth rates of net investment.) Two obvious results are derived from this analysis: (1) the rate of growth of the capital stock is greater, the greater the positive divergence between economic depreciation and tax depreciation; and (2) inflation (even moderate levels) rapidly erodes any advantage given by accelerated depreciation. Some estimates are presented to show how depreciation schedules and inflation interact to produce different investment.

##### Basic Method

It is reasonable to assume that Indonesia is a price taker both with respect to the price of capital goods and the gross-of-tax rate of return on invested capital ( $r$ ). Therefore, in the absence of inflation a firm that reinvests 100% of its earnings can be expected to expand its net capital stock by  $r\%$  per annum. If Indonesia imposes a tax on capital (or restricts and/or over-encourages investment in certain sectors) then the rate of growth of the capital stock might be affected.

Therefore, one measure of the effective rate of taxation could be (the change in) the rate of growth in reinvestment by a firm (sector

or the economy as a whole) in an open economy. Of course, in a steady state the decline (increase) in the rate of growth in investment will be equal to the traditional measures of effective tax rates a la Jorgenson, etc. Such an approach is adopted below.

Suppose a firm is considering a reinvestment program. In the absence of taxation net investment in any period is:

$$I_t = I_{t-1}(1-d+b(r+d))$$

where:  $I_t$  = net value of the capital stock  
 $d$  = rate of economic depreciation  
 $b$  = proportion of cash flow reinvested  
 $r$  = rate of return on capital  
 $r+d$  = current return on capital stock

Using this notation, cash flow in any period will be equal to  $I_{t-1}(r+d)$ . That is, the firm will generate sufficient cash flow to cover its rate of return plus one year's depreciation. If  $b = 1$  (100% reinvestment) then the capital stock will grow at  $r\%$  per annum, and

$$I_t = I_{t-1}(1+r)$$

In order to keep things simple, 100% reinvestment will be assumed.

If a tax is imposed with the allowance the "real economic" depreciation then investment in the future will be equal to (in the case of 100% reinvestment):

$$I_t = I_{t-1}(1-d+r-t(r+d-d)) = I_t(1+r(1-t))$$

That is, investment will grow at  $r(1-t)\%$  per annum. Under the proposed rules for Indonesia, tax depreciation will be calculated using open ended accounts and declining balance depreciation. Thus, under this

regime, investment in any period will be equal to:

$$I_t = I_{t-1}(1-d+r-t(r+d) - x \sum_{R=0}^{t-1} (1-x)^{t-1-k} I_t^* k)$$

where:  $x$  = rate of tax depreciation

$I_t^* k$  = "new" investment in period  $t$

With this notation tax depreciation in any year is equal to:

$$x \sum_{R=0}^{t-1} (1-x)^{t-1-k} I_t^* k$$

If  $x = d$ , then we are back in the "real-economic" depreciation case. However, if  $x \neq d$  then the rate of change of investment will be different each year until a steady state is reached. In the steady state investment will be equal to:

$$I_t = I_{t-1}(1+r(1-t)+t(z-d))$$

where:  $z$  = steady state depreciation rate for tax purposes.

In addition, double declining balance is not neutral among asset classes. That is, the rate of growth of net-investment in the steady state will be lower (the effective tax rate higher) the smaller the declining balance rate. This implies that in the absence of inflation, under double declining balance, an asset which has a lower declining balance rate relative to other assets will have a higher effective tax rate, while in general, all assets will have lower effective tax rates than a neutral system using economic depreciation.

In the presence of inflation, firms will require a cash flow which will cover the effect on inflation on their assets, i.e.

$$CF_t = (1+p)(r+d)I_t$$

where:  $CF_t$  = gross of tax cash flow

$p$  = inflation rate

Therefore, when inflation is introduced in the model, with no indexation of the tax system, investment in any period will be equal to:

$$I_t = I_{t-1} \left( (1+r)(1+p) - t((1+p)(r+d) - x \sum_{R=0}^{t-1} (1-x)^{(r-t-1)}) \right)$$

In the steady state, real investment will equal

$$I_t = I_{t-1} (1 + (1-t)r + t(z^* - d))$$

where:  $z$  = effective steady state depreciation rate

(inflation inclusive)

Because of the difficulty in obtaining analytical solutions, a simulation methodology has been used to obtain estimates of effective tax rates.

### Numerical Results

A computer program was written to perform nominal calculations. The program can compute net investment for up to 20 years. The "true" economic depreciation case is presented on Table I when tax depreciation is equal to the real depreciation rate then investment grows at 6.5% per year independent of asset life.

The remainder of Table 1 contains calculations for different rates of inflation. For each asset class, the following results are

reported for each level of inflation: (1) the rate of growth of the net of inflation capital stock at the end of year 20 (approximately equal to the steady state rate of growth); (2) the real value of capital stock at the end of year 20; (3) the real value of the tax revenue in year 20; and (4) the (approximate) steady state effective tax rate. The first row for each asset classification measures the "true" economic depreciation. Note that the values of this row are identical (since "true" depreciation is neutral). The second row for each asset measures the effect of double-declining balance depreciation with zero inflation. The remaining rows for each asset measure the effects of double-declining balance at different levels of inflation. The following points are indicated by the results presented on Table III.

- i. Double declining balance depreciation is not neutral across asset classes. In particular, double declining balance favors short-term assets relative to long-term assets when inflation is zero (or when the tax system is indexed).
- ii. The investment incentive granted under double declining balance depreciation is rapidly eroded by inflation. At an inflation rate of 10%, the effective tax rate is higher for each asset classification under double declining balance than for "real economic" depreciation under an indexed tax.
- iii. The effect of inflation is greater on short-lived than on long-lived assets. This is true because the gross of tax

cash flow must be higher for a short-lived asset per dollar of investment in order to cover the relatively rapid write-off period. However, tax depreciation, being based on historical cost, is proportionately lower leaving more "taxable income" in later periods.

In summary, double declining balance with modest levels of inflation will completely erode any investment incentive offered by accelerated depreciation and may discriminate against "short-term" assets.

Other Effects

- (a) Because of accelerated depreciation, there is an incentive to turn over assets faster because of the rapid write-off. Therefore, there could be a "churning effect" whereby the same capital stock keeps changing hands without a net increase in the stock.
- (b) The effect in A above would be offset by the fact that sales of assets reduce the balance in the open ended account. If the tax system is not indexed for inflation then the nominal amount of the sale could reduce the balance below that which would occur under an indexed system, depending on the changes in relative replacement assets and used assets. This could create two incentives. First, firms may prolong use of an asset beyond its useful life or merely "give" them away. Second, firms may simply not report the sale which would further erode compliance of the tax system.

Summary

There are two ways to interpret the results on Table III. First at 10% inflation, the depreciation scheme does not appear to be too bad. The variance in effective rates is not too great and the effective rate that is fairly close to it would occur if true economic depreciation were to be used. This is particularly true in the real world, where firms use a combination of different assets. Second, when rates of inflation exceed 10%, things look pretty bad. At different rates the system becomes more non-neutral, creating differentials in the rate of growth of the investment of different assets. Thus, the real issue appears to be whether the cost of indexing the system outweigh the efficiency cost created by the combination of accelerated depreciation and inflation.

Finally, there is the issue of asset classes. The analysis suggests that wider brackets might be better than the current ones for short-term assets, e.g.

<u>Rate</u>	<u>Asset Life</u>
2/6 for class one	1-6 years
2/12 for class two	7-12 years
2/18 for class three	13+ years

However, more work must be done if any changes are to be made.

Table 1: Results for Different Asset Classes and Different Rates of Inflation

Inflation Rate	Values in Year 20			
	Reinvestment Rate	Real Capital Stock	Real Tax Rev.	Effective Tax Rate
<u>Four Year Asset</u>				
Real Economic Depr.	6.5	331	11.5	35.0
- 0%	7.66	468	10.9	23.4
5%	6.69	393	13.0	33.1
10%	5.88	339	14.0	41.2
15%	5.20	299	14.4	48.0
20%	4.61	268	14.5	53.9
<u>Eight Year Asset</u>				
Real Economic Depr.	6.5	33.1	11.5	35.0
- 0%	7.52	441	10.0	24.1
5%	6.7	393	12.7	33.1
10%	6.05	340	14.0	41.0
15%	5.55	310	14.7	48.5
20%	5.15	288	16.0	60.6
<u>Twenty Year Asset</u>				
Economic Depr.	6.5	331	11.5	35.0
- 0%	7.2	399	10.9	28.0
5%	6.6	362	12.2	34.0
10%	6.3	338	12.7	37.0
15%	6.0	321	12.9	40.0
20%	5.8	309	13.1	42.0

## APPENDIX IV

### Source Rules and Foreign Tax Credits

#### Introduction

The purpose of this note is to describe the tax treatment of foreign investors under Indonesian law. In general, most home countries (except France) offer a tax credit for foreign income and withholding taxes paid to the foreign countries of firms which are domiciled in their countries. It is important for a country such as Indonesia to accommodate, as much as possible, the tax credit rules of the home countries for two reasons. First, Indonesia can determine its income and withholding taxes so that the incentive effects on the foreign investment are small. That is, under certain conditions tax payments can be mere transfers from home to host countries with no affect on the net of tax returns to investors. Second, foreign firms are adamant about foreign tax credits. That is, a country which has a tax system which is not compatible with international tax rules will find it difficult to attract foreign investors because foreign firms consider the foreign tax credit issue so important.

The United States has the most rigid foreign tax rules of any country. In addition, since 1978 the definitions of creditable foreign taxes have been changed at least four times. Because of the importance of the United States rules, the discussion below is structured around the U.S. rules.

Foreign Tax Credit Rules

In order for a firm to claim a credit for foreign taxes paid, the tax in question must be an "income" tax both with respect to structure and intent. In order to qualify with respect to structure, the tax must be based on net income and it must reflect the expenses necessary for the computation of net income. That is, depreciation and interest deductions must be included as well as allowances for bad debts, accruals and deferred expenses, etc. The tax must also be based on some definition of the principal "source" (see below). 1/

In order to qualify with respect to intent, the tax must be a payment for which there is not a tangible benefit received by the taxpayer. For instance, if a country imposed a payment which was identical in structure to an income tax but it was judged to be a payment for the right to extract natural resources, then the payment would be deemed to be a royalty, not an income tax, and would not be a creditable tax.

In addition to the two provisions outlined above, there are other characteristics of the payment. If the tax is designed to "sop-up" excess foreign tax credits, then it would not be creditable. For instance, if a country imposed a variable rate tax where the rate was an increasing function of the home tax rate then such a tax would not be creditable. In addition, there are certain non-discrimination clauses in the foreign tax rules. The tax must be one which is generally

---

1/ There are "in lieu of" provisions where certain payments can be made in lieu of income taxes. However, the basic standard is still the traditional type of income tax.

applicable to both domestic and to all foreign investors (e.g., a country cannot tax domestic investors at one rate and foreign investors at another). Finally, the tax cannot be sector specific. That is, the textile industry cannot have a maximum rate of 45% while the maximum marginal rate for all other industries is 25%.

#### Source Rules

Under U.S. law, income is "sourced" according to the F.O.B. price at the location of production. That is, sales are attributed to the location of production. In order to be consistent, costs, regardless of location, should be shared between locations in proportion to their contribution to profit (e.g., research and development expenditures in the United States should be allocated to all locations of production in some manner.) This method is known as "separate accounting by source." This method is generally accepted in the international tax and accounting communities.

The alternative to source rules via separate accounting is attribution of income based on some formula. This method is used by some states in the United States. Under this method, total world-wide income is attributed to each taxing jurisdiction based on a formula made up of various components (e.g., the ratio of sales in each jurisdiction to total world wide sales). This alternative has gained some popularity in recent years and is found in Australia and even in certain parts of U.S. federal rules (sections 861-683 of the Internal Revenue Code.)

The tax law in Indonesia uses traditional separate accounting by source to attribute income from both foreign investors in Indonesia

and foreign investments of domestic nationals. That is, the definitions of income and where income is attributed is generally the same as those under U.S. foreign tax credit rules.

The reason for this choice is not economic. From an economic perspective, the choice of the attribution rule is arbitrary. However, there is a great deal of debate with respect to the use of formulae. Thus, it was judged that in order to eliminate this debate from the Indonesian tax reform, traditional accounting rules would be used.

#### Accommodation and Incentives

U.S. foreign tax credits are grouped according to what is known as the "overall" limitation. Under this rule, the creditable taxes paid to all foreign governments are pooled to determine the total foreign taxes paid in any period. <sup>2/</sup> If total foreign taxes are greater than (less than) U.S. taxes due then the firm is said to be in an excess (deficit) tax credit position. This implies that whether or not Indonesian taxes on incremental investments increase, the tax burden of the firm depends on the taxes paid to other countries. For instance, if the firm were in an excess (deficit) position then any taxes paid to Indonesia would increase (have no effect) on the total taxes paid by the firm.

Given this result, it is impossible for Indonesia (or any other country) to fine tune its tax laws on a firm by firm basis since differ-

---

<sup>2/</sup> The alternative is called the per-country limitation, where the pooling is restricted to each country.

ent firms have different tax credit positions at different dates. 3/ In order to keep Indonesia competitive for investments by foreign firms after the elimination of all incentives, it was judged that the lower corporate income tax rates combined with the withholding taxes of 20% 4/ was sufficient to trade-off the potential revenue losses from lost deficit credits with the competitive effects of the use of tax incentives by other countries.

---

3/ In addition, foreign firms have some flexibility with respect to the timing of payments to home parents as well as to the use of funds generated in one country for operations and investments in other countries.

4/ Which in turn can be modified by treaty.

## APPENDIX V

What follows is a description of revenue estimates from the petroleum sector under the value added tax. It is included in this study: (1) to illustrate the alternative methods of computing a VAT; and (2) to show that the net value added tax payments are not affected by any of the alternative computations. Thus, the method adopted for a VAT in a specific case will depend on administrative costs and other non-revenue factors.

Four cases are presented for the period 1984-1985. Administrative effects are discussed.

### 1.1 Table I: Case I

Estimates for Pertamina's net value added tax liability are presented in Table I. These estimates were based on the following assumptions:

#### Assumptions

- i. The contractors will collect the VAT on all transactions with Pertamina. That is, the contractors will act as a collection agent for the government with respect to transfers of both in-kind and pro-rata crude oil to Pertamina.
- ii. No VAT will be collected on Pertamina's own production (either pro-rata or in-kind) when it is transferred to the refinery. This is common practice with respect to vertically integrated operations. Therefore, the amount of tax collected on crude oil inputs will vary depending

on the ratio of contractor crude oil inputs and Pertamina's own production.

- iii. The VAT on output will be based on the value of output less pump margins. Ideally, one would like to employ the "ex-refinery" price for each output. However, it appears that no ex-refinery prices exist. To the extent that margins above wholesale are included in the reported estimates, VAT revenues will be over-estimated.
- iv. Exports of refined products (or crude) by Pertamina will be taxed at a zero rate, like all other exports.
- v. Data employed were obtained from Pertamina's estimates of domestic refinery costs for the next twelve months adjusted for output price increases made in January. Pertamina must provide data to the Ministry of Finance on the cost of domestic production each year in order for the Ministry of Finance to calculate the budget subsidy to Pertamina. This data base is the one that was employed in the analysis. The data provided by Pertamina to the Ministry of Finance is somewhat dated in that the revenues and estimated production do not reflect the increase in BBM prices made early this year. Therefore, quantities of each input were reduced in proportion to the reduction in domestic demand for final products estimated by Dale Gray.
- vi. No adjustment is made for imports of capital goods and services (see Tables II and III).

As shown on Table I, the VAT on inputs is greater than the VAT collections on output (ex-refinery). This result is due in large part because of the domestic price controls on refined products. Given this result, Pertamina will receive a "refund" of almost 33 billion rps. and total VAT collections (net of refunds) by the Ministry of Finance will equal almost 550 rps. for BBM products.

#### 1.2 Table II: Case II

Table II also contains estimates of VAT collections under the assumption that the contractors will be VAT collectors for transactions with Pertamina. The following additional assumptions were also employed in making the estimates reported on Table II..

#### Further Assumptions

- i. All imported capital goods and services are purchased by the contractors, not by Pertamina. (This assumption probably overestimates the amount of contractor withholdings since Pertamina will import some capital goods and services.)
- ii. The VAT is collected on all imported capital goods and services by the tax authorities.
- iii. The contractors will collect VAT on all transactions with Pertamina.
- iv. Estimates of the quantity of capital goods, imports and services were computed from data found in the 1984 World Bank Report.

Under these assumptions, the Ministry of Finance will treat the contractors as separate entities from Pertamina instead of partners (which they are legally). That is, the contractors and Pertamina will be separately liable for their shares of the VAT.

Under these assumptions, the VAT collected on imports of services and capital is less than the VAT collections on transfers of crude oil between the contractors and Pertamina. Therefore, since the contractors' VAT collections are greater than the contractors' credits, the contractors will pay the difference of 142 billion representing a maximum figure since the calculations are not adjusted for the exports made by the contractor. Contractor exports will be taxed at a zero rate (like all other exports) and the contractor will receive a rebate for a share of import VAT on their exports. Finally, total collections from the contractors, collections from imports plus VAT on transfers of crude oil to Pertamina, will be almost 459 billion.

Note, however, that this 459 billion is not the "net addition" to government revenues. That is, the total revenues less refunds will be the 549 billion reported in Table I. This is true because the credit system works to ensure that the effective tax revenue collections will be only the revenues from sales "ex-refinery." This fact is shown clearly on Table III.

### 1.3 Table III: Case III

The results reported in this table are based on the assumption that Pertamina, not the contractors, will be allowed to credit the VAT

collections on imports. That is, Pertamina is assumed to "import" all capital goods and services. Therefore, Pertamina will get the credits for VAT on imports. It is also assumed, like Case I and Case II, that the contractors will collect VAT on transfers of domestic crude oil inputs to Pertamina. 1/ The net VAT collections (receipts less credits) would be almost 550 billion rps. (the value reported in Table I). However, the refunds from the Ministry of Finance to Pertamina are almost 350 billion rps. greater than the refunds reported in Table I because of the inclusion of the VAT collections on imports of capital and services.

There are two interpretations to this calculation. First, it can be claimed that in effect, Pertamina imports all capital goods and oil services. (For imported capital goods this claim is technically correct since all capital goods become the property of Pertamina upon importation.) In this case, the contractors serve only as collection agents for the Ministry of Finance (i.e., Table II no longer applies). Second, it can be assumed that the contractors are "liable" for the VAT and therefore, the figures on Table II are relevant. In this case, the total refund could be split between the contractors and Pertamina. The contractors could be paid by Pertamina an amount equal to the VAT on imports (316.252 billion rps) to reimburse them for the payments of this tax and then Pertamina would keep the residual (i.e., the 33.311 billion

---

1/ Since the contractors would have no VAT to credit in this case, all VAT collections by the contractors will be transferred to the Ministry of Finance.

rps. which is the value of refunds reported on Table I). This interpretation would be consistent with the assumption that the contractors "pass-through" all costs as the basis for reimbursements in the production sharing contracts and that the gross of tax prices for contractor imports increase by the amount of the tax (i.e., the supply of imports at world prices is perfectly elastic).

#### 1.4 Table IV: Case IV

The values reported in this table are based on the assumption that the contractors do not collect VAT on transfers to Pertamina. As shown, the elimination of contractor withholding is sufficient to eliminate any refunds to Pertamina. In fact, Pertamina will make additional deposits of almost 108 billion rps. in order to cover the total VAT on sales in the domestic market, i.e., an amount sufficient to make the total collections equal to 549.6 billion rps. Once again, the reason for the difference between Tables III and IV is the absence of VAT collections by the contractors on domestic transfers of crude oil to Pertamina.

## 2. Implications

### 2.1 Budget Effects

Two options are available to the government with respect to the overall budget and the VAT on petroleum products. First, domestic prices could be allowed to increase by the amount of the tax. (Because of the method used to compute prices, this would imply that BBM prices at the refinery would have to increase by almost 10%. BBM prices at

retail would not increase by the full 10% because some distribution margins would not be taxed.) If this option is chosen, then the net effect on the government budget would be nil. That is, the Ministry of Finance would collect the VAT, increasing government receipts, and at the same time increase expenditures (the subsidy to Pertamina) by the same amount.

## 2.2 Administrative Effects

The success of the VAT as a major source of revenue depends upon collecting as much revenue as possible at a very few strategic collection point, i.e., Pertamina and the ports. Therefore, it is imperative that all imports of crude oil, oil products, capital and services be subject to VAT. If these items are exempt then there is the potential for (and actual) erosion in the VAT administration at the border which will increase costs and open the system for abuse. Also, if these items are made exempt, it will be difficult to prevent exemptions for other sectors or products.

The second major point of collection in this sector will be at the point of transfer of domestic refined products from Pertamina to the wholesaler. In some cases, this point will be clearly defined (e.g., kerosene); however, in other cases such points are not clearly defined (e.g., gasoline). One solution to this problem would be to require Pertamina to pay the tax "ex-refinery" (as it should through time once Pertamina has accounts). That is, every time a shipment to a domestic source is made from the refinery, a sale would be "deemed" to occur, i.e., Pertamina would have to pay the tax on shipments. The only

problem with this method would be a potential timing difference between the date of shipment and the date of sale. However, since VAT payments will be made once a month, this problem could be handled by requiring Pertamina to fractionally increase its working capital (in cash) by an amount sufficient to cover the payments. If payments are not made promptly by Pertamina, then Ministry of Finance would reduce the quarterly subsidy by the appropriate amount (plus interest and penalties).

Regardless of the method employed, enforcement measures must be developed. It is important that the Ministry of Finance receive timely and accurate information on the quantity of domestic production and shipments. (Imports should be handled in the same manner as the importation of other commodities.) With this information, the Ministry of Finance will be able to compute the amount of the VAT collections and to independently compute the amount of the credit or balance due from Pertamina.

The final issue is whether contractors should withhold on transfers of crude oil to Pertamina. Ideally, this should be the method employed. Domestic production is transferred from one producer to a refiner and the tax should be withheld at that point. While this might marginally increase the administrative burden on the contractors, this burden should not inhibit implementation. (Afterall, other manufacturing firms in the non-oil sector must do it.)

The major problem with this method is the treatment of "in-kind" oil. Pertamina gets a large share of its domestic crude oil from

the contractor as part of the production sharing agreements (or contract of work) without a transfer of cash or other form of payment. If the contractors are required to withhold on in-kind oil then a cash payment by Pertamina to the contractor will be required for the amount of the tax withholding. Therefore, before the contractors would be willing to go along with this method, they must be assured that either Pertamina will pay or that the contractor will have the power to withhold "in-kind" and sell the crude to discharge Pertamina's liability. (Alternatively, the contractor could report quantities transferred to the Ministry of Finance and then the Ministry of Finance could handle the collections.) Regardless of the method used, it should be made clear to the contractors that they will not be put in jeopardy for Pertamina's liability.

### 2.3 VAT on Contractors

A final note is required with respect to the tax treatment of contractors under the value added tax system. It is important that VAT be collected on all imports of contractors similar to that imposed on Pertamina. However, the rebate system will be an important component of the taxation of contractors. Since contractors will export all of their crude, a timely rebate system will be important.

Table I\*\*

Value Added Tax on Oil Products

1984-1985

Estimates for Pertamina Domestic Production and Crude Oil Purchases

Item	Quantity 1000 bbls.	Value (billion rps)	VAT
I. Crude Oil Inputs			
1. Pro-rata: Contractor	15.740	93.577	9.357
2. In-Kind: Contractor	144.758	4490.369	449.037
3. Imports	31.768	963.412	96.341
II. Imports: Refined Products	7.940	281.752	28.175
Total VAT collections prior to refinery intake		582.911	
III. Domestic Sales of Refined Products	160.755	5496.000	549.600

Computation of Net Value Added Tax  
in rp billion

VAT collections on sales	549.600
Less VAT withheld	589.911
Refunds to Pertamina	33.311
Net VAT collections by Ministry of Finance	549.600

\*\*Notes: Values in billion Rp. Quantities in Million Barrels. Data based on estimates provided by Dale Gray and estimates by Pertamina. The data from Pertamina were adjusted for revised estimates of domestic consumption after the January 1984 price increases. This calculation assumes that contractors collect VAT on all sales to Pertamina.

Table II

Value Added Tax on Oil Sector Imports

1984-1985

rp billion

Item	Value	VAT
1. Production related imports	2,731.130	273.113
2. Non-factor service imports	431.393	43.139
Total VAT Collection on Oil Related Imports		316.252

---

Net Collections Assuming Contractor is Subject to VAT

Item	rp billion	Amount
Collected on In-kind and Pro-rata sales to Pertamina		458.394
Less: VAT withheld on Imports of capital and services		316.252
Net VAT paid by Contractors		142.142

---

notes: values measured in billion rps. This computation assumes that contractors will be liable for VAT on all imported inputs and that the contractors will withhold VAT on sales to Pertamina for domestic uses. Therefore, contractors will be "liable" for the net difference between withholding on imports and withholding on domestic sales.

Table III

Total VAT Collections

Oil Sector

Pertamina Subject to VAT

1984-1985

rp billion

Item	Amount
1. VAT on domestic sales of BBM	549.600
less	
2. VAT on imported oil sector equipment and services	316.252
less	
3. VAT on crude oil purchases and transfer	582.911
Net Refunds of VAT to Pertamina	349.630
4. Net VAT collections to Ministry of Finance	549.600

---

notes: values measured in billion rps.

Table IV

Total VAT Collections

Oil Sector

Contractors Do Not Collect VAT on Domestic Transfers  
of Crude Oil to Pertamina

rp billion

Item	Amount
1. VAT on domestic sales of BBM	549.600
less	
2. VAT on imported equipment, services crude oil and products	440.768
3. Net Additional payments by Pertamina from withholding on domestic sales	108.832
4. Net VAT collections	549.600

## APPENDIX VI

### Incentives to Go Public

#### Introduction

With the advent of the Jakarta Stock Exchange, the Ministry of Finance issued some rulings which provided tax incentives for firms which issue and sell their shares on the domestic stock exchange. These tax incentives included: (1) reduced corporate tax rates (over and above those for firms who file audited financial returns) for a period of years (the rate reductions and time limits vary depending on the proportion of shares issued); and (2) tax exemptions of dividend payments to domestic shareholders for a specified period of time (generally three years).

It was felt that such tax policy would provide incentives for foreign firms to sell at least part of their interest to Indonesian nationals (who are the only people allowed to buy stock on the Jakarta exchange) and thus to speed "Indonesianization" of this part of the capital stock.

#### Analysis

I believe that the major result of these incentives was to merely transfer tax revenues from the Indonesian treasury to foreign investors. This can be seen from the following. If a foreign firm invests in Indonesia then the value of its investment will equal the net-of-tax present value of the flow of income generated. Assuming a

constant cash flow and ignoring foreign taxes then the foreign investor's present value will be:

$$PV_s = (1-t_s)(1-t_c)D(1-e^{-rT})/r$$

where:  $PV_s$  = present value to foreign investor  
 $t_c$  = effective corporation tax rate  
 $t_s$  = effective withholding tax rate  
 $D$  = constant profits (assumed distributed)  
 $r$  = continuous discount rate  
 $T$  = life of project

A finite life is assumed because corporations in Indonesia are generally created on a project by project basis and under Indonesian law a corporation has limited life (generally 30 years).

A domestic national considering the purchase of the shares in this corporation would evaluate the prospects according to:

$$PV_d = (1-t_d)(1-t_c)D(1-e^{-rT})/r$$

where:  $t_d$  = domestic marginal tax rate

I assume that the discount rates for domestic and foreign nationals are the same. In this situation, a domestic national would be willing to buy the shares of the foreign firm and the foreign firm would be willing to sell if  $PV_d > PV_s$ : i.e., if  $t_d < t_s$ . If the situation is reversed then no trades will take place.

The introduction of the tax incentives for going public do nothing to the opportunity cost of the foreign investor since this investor always has the option of not selling shares. 1/ However, the willingness to pay on the part of domestic nationals would be affected. In particular, the willingness to pay by domestic nationals under the tax incentive scheme would become:

$$PV_{d*} = D/r((1-t_{c*}(1-e^{-rT*}) + (1-t_d)(1-t_c)(e^{-rT*} - e^{-rT}))$$

where:  $t_{c*}$  = reduced corporate income tax rate

$T^*$  - period incentives apply

Thus, the effect of the incentives is to increase the willingness to pay of domestic investors by exactly the amount of the present value of the revenue loss to the government created by the incentives. If the incentives are rich enough then foreign firms will sell shares in the exchange and capture some of the incentives from Indonesia to the foreign investors. In this case, the ownership of the capital stock has changed but Indonesian nationals are no better-off (they only cover their personal opportunity costs). Indonesia as a whole has less tax revenue than before.

#### Implications and Alternatives

This simple example implies that at least part of the tax savings created by these incentives is captured by the foreign firms.

---

1/ The law does not require foreign firms to sell shares.

In effect, Indonesia is paying the foreign firms to part with their holdings.

Given the economic fact that foreign firms must obtain their reservation price, it may be better for Indonesia to simply pay the firms their reservation price and sell the shares on the exchange itself. In this case, the government will not lose the portion of the tax incentives which accrue to domestic nationals.

The following points should also be noted:

- i. They are only provided for existing firms. Thus, there is no reason to believe that the domestic capital stock will increase on account of the incentives. The ownership might change, but the benefits to Indonesia (net of tax) will not be affected and there is no indication that domestic investors will use existing firms for expansion, etc., when the firms are still effectively controlled by the foreign investors.
- ii. Indonesia has methods other than tax incentives to induce firms to sell shares. For instance, most non-fuel mineral contracts contain provisions which require firms to offer a certain percentage of their shares for sale to domestic nationals within a specified time frame (usually 5-10 years). With these provisions the government at least has assurance that the offers will be made.
- iii. Prospects about the value of the firms will vary. In particular, some foreign firms may want to get out due to

changes in market conditions. In this case, the tax incentives might allow firms who would have wanted to unload their bad investments to do so at a price greater than the one that the market would otherwise bear.

- iv. It is common for the sale of stock by foreign firms to create foreign source capital gains (or losses). If Indonesia allows the sale of shares to domestic nationals to be non-taxable events under Indonesian law, then taxes might have to be paid to the home country from the sale. In this case, there is the additional effect of revenue gains to the home country.

I believe that this incentive is not an efficient means to induce Indonesianization of foreign firms. If Indonesia wants to increase the share of capital held by domestic nationals then it should concentrate on increasing the share of future investments made by domestic nationals relative to foreign investors. Trading ownership of the existing capital stock will do little or nothing to enhance Indonesia's growth while creating a drain on the treasury.

## APPENDIX VII

### Production Sharing Contracts

#### Introduction

The production sharing contracts used in Indonesia have evolved over a period of ten years. Like most mineral producing countries, the initial format of the government's share of oil production was a royalty type agreement. The government was paid a percentage of the gross for the right to extract the resource and the contractor was liable for generally applicable income taxes.

Through time this contract changed from a contract of work format where the contractor was paid for his contribution to exploration and development to the current production sharing contract. The purpose of this note is to describe the nature of the production sharing contract and how the new tax law accommodates the contracts so that the investor is treated the same under both the old and new tax laws.

#### Description

The Indonesian production sharing contract has the following important provisions:

- i. A Signature Bonus. This payment is made by the contractor upon the completion of negotiations. In return for the payment, the government provides the contractor with all geological information held by the state.
- ii. Tax exemptions for imports. All imported materials and capital equipment are exempt from import duties.

- iii. State ownership of capital. Upon importation of materials and capital equipment, the ownership of such goods is transferred to Pertamina. However, the contractor has the right to depreciate and otherwise recover the cost of capital equipment.
- iv. Investment credit. Under certain conditions, contractors may claim an investment credit equal to 20% of the investment.
- v. Production Bonus. Under certain conditions, the contractor pays a one time bonus payment once the reserves are known. That is, once the size of the field is known (within certain limits) the contractor might be liable for a one time additional payment which varies with the size of the field. Both the signature and production bonus are deductible from income taxes.
- vi. Exploration and Development Expenses. If exploration is not successful then the firm will not be paid anything. If exploration is successful then the contractor will have the right to recover all exploration and development expenses before Indonesia obtains any share of production. This rule is similar to unlimited loss carry-forwards.
- vii. Depreciation. Intangible drilling costs are expensed. Other capital costs were subject to regular depreciation rules which provided for double declining balance method.

- viii. Cost Oil. Once production begins the contractor receives payment for all costs incurred. Thus, Indonesia receives no payment before the contractor covers all costs.
- ix. Pro-rata Crude. Once exploration, development and cost oil is obtained by the contractor, the contractor receives a pro-rata share of production. This share was about 29% under the old tax and is equal to about 32% under the new tax law. The percentages are determined so that when combined with the income and withholding taxes the share going to the contractor (government) is 15% (85%).
- x. Income Taxes. Contractor is liable for income taxes. The income taxes covered both income and withholding taxes. In effect, the contractor is treated like a branch operation where all income is deemed distributed to the foreign parent during the year which it accrues.

Modifications to Reflect New Income Tax Law

In order to keep the intent and the result of the production sharing contracts unchanged under the new tax law three changes had to be made. First, the pro-rata share of production had to be increased. This reflected the lower corporate income tax rates. Thus, the firms will still receive 15% net of tax. However, the share of money going to Pertamina will increase and the share going to the Ministry of Finance will decrease.

Second, under the new tax law "intangible" costs in the natural resource sector are to be capitalized and recovered either through cost depletion or depreciation. This provision was intended for non-oil investments. To ensure that the law was clearly understood, a revenue ruling was issued which defined intangible costs. Under this ruling most expenses incurred by producers of crude oil do not fit into this grouping and are not affected. This is important because 60-80% of drilling costs are expensed under the production sharing contracts. Thus, any change in the treatment of these costs would change both the timing of the expense and the present value of the projects to the contractor.

Third, the depreciation rules are different under the new tax law. However, this problem was largely definitional since the major difference was with respect to the asset lives and not with respect to the method of depreciation (i.e., double declining balance was used in crude oil production under the old law.) Thus, assets were classified in the groups which were nearest the asset lives under the old tax laws. While not perfect, the correspondence is close enough to ensure that the tax effects on the present values for the contractor is nil.

APPENDIX VIII  
Members of the Technical Team

Malcolm Gillis: Director

Economists

1. Prof. Ralph Beals (U.S.)
2. Prof. Richard Bird (Canada)
3. Prof. Sjibren Cnossen (Holland)
4. Prof. Robert Conrad (U.S.)
5. Prof. David Dapice (U.S.)
6. Prof. Jean Due (U.S.)
7. Prof. John Due (U.S.)
8. Prof. Sebastian Edwards (Chile)
9. Dr. Richard Goldman (U.S.)
10. Prof. Dan Gressell (U.S.)
11. Prof. Arnold C. Harberger (U.S.)
12. Thomas Hart (U.S.)
13. Dr. Glenn Jenkins (Canada)
14. Dr. Dietrich Lerche (Germany)
15. Prof. Charles McLure (U.S.)
16. Dr. Guillermo Perry (Colombia)
17. Dr. Sattya Poddar (Canada)
18. Prof. Carl Shoup (U.S.)
19. Dr. Emil Sunley (U.S.)
20. Prof. Louis T. Wells (U.S.)

Lawyers

1. Edward Craft (U.S.)
2. Andrew Giffin (U.S.)
3. Karl Price (U.S.)
4. Andrew Quale (U.S.)
5. David Rosenbloom (U.S.)
6. Cherly Williamson (U.S.)

Accountants and Computer (U.S.)

1. Barbara Burton (Canada)
2. Malcolm Lane (U.S.)