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REVENUE IMPLICATIONS OF WTO REGIME AND ALTERNATE MEASURES FOR REVENUE MOBILIZATION

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Inputs from various stakeholders during interactions at Advisory Committee meeting, and the workshop organized by the EPN Focal Unit have been incorporated in the report.

Foreword

Economic Policy Network (EPN) initiated in August 2004 is an undertaking of the Government of Nepal with an Asian Development Bank (ADB) Technical Assistance (TA) to develop and institutionalize an open, responsive and result oriented economic policy formulation process based on sound economic analysis and dialogues with the partnership of public and private sector, academia, and independent professionals, to support and consolidate the Government's economic policy reforms on poverty reduction strategy. The initial focus has been in the areas of macroeconomic management; trade, investment and employment; infrastructure development; and tourism, agriculture, and regional development through four thematic advisory committees chaired by the secretaries of the respective implementing ministries, and guided by a high-level steering committee. The present study is an outcome of the initiative under the Advisory Committee for Economic Policy on Macroeconomic Management chaired by the Secretary of the Ministry of Finance.

This report has attempted to analyze the implications on economic activities and the consequent effect on government revenue due to the entry in World Trade Organization. It has also identified prospects for alternate revenue generation measures. The report deals with legal, institutional, administrative and policy constraints and had suggested reforms accordingly. The recommendations are the outcomes of consensus reached among major stakeholders through various consultations and the EPN workshop. I hope the findings and recommendations will be helpful for policy makers for future reforms.

I would like to thank Dr. Dandapani Paudel for carrying out the study. I also thank all those who have provided inputs for the report during the interactions, the advisory committee meetings, and the EPN technical workshop held in Nepal Administrative Staff College, Jawalakhel, Lalitpur. The work of the Advisory committee for macro economic management is to be commended for selecting the issue and for following through with the study. I would also like to appreciate the entire EPN team for their hard work. Last but not least, I would like to thank the ADB for supporting this initiative.



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Executive Summary

The main objectives of the study are to (i) assess implications of the WTO regime on revenue mobilization with special emphasis on trade in goods and (ii) explore alternate measures for that purpose. Thus, the study examines the buoyancy and elasticity of the Nepalese tax system paying particular attention to the impact of trade liberalization on revenue mobilization. Also the study attempts to see the impact on import duty of the variables like import trade, real effective exchange rate, unweighted average tariff rate and also liberalization dummy based on the common anchor of the acceptance of the Article VIII of the IMF as a good proxy for liberalization. Similarly, the study attempts to quantify the trade effects on revenue under the WTO commitments. The study approach is both the qualitative and quantitative. Obviously, a gradual liberalization of international trade was started much earlier in Nepal than the selected base for liberalization dummy. Nonetheless, the objectives of the trade liberalization were to enhance the tax yield through the increased volume of trade. On the whole, the spirit of the reform agenda was to help increase the level of investment and growth resulting in the broadening of tax base.

The results of the analysis for the review period (1974/75-2004/05) reveal that the tax system as a whole in Nepal is not highly buoyant and elastic. Similarly, the major taxes like custom duty, VAT, excise tax and income tax were also not distinctly differed. In order to compare the tax-to-base buoyancy before (1974/75-1993/94) and after liberalization (1994/95-2004/05), the post-liberalization sub-sample period clearly exceeded the buoyancy of the whole sample period and the pre-liberalization sub-sample period in case of VAT, excise tax and income tax indicating the composition of total tax that has been skewed towards domestic indirect and direct taxes from that of trade tax. Moreover, the custom duty remained less buoyant for the post-liberalization period compared to the whole sample period and pre-liberalization period. This clearly supports that the gradual rationalization of trade tariff and less opportunity in benefiting from the tariffication as a result of the liberalization in the non-tariff barriers has made custom duty less buoyant.

The comparison of the decomposed base elasticity has more or less followed the trend of buoyancy for the whole sample period and also for the pre-liberalization period. However, for the period of post-liberalization, the base elasticity of VAT has shown a negative sign though not statistically significant followed by excise tax and income tax with a lower elasticity with their respective bases resulting in a higher discretionary impact. The custom duty has the highest elasticity (0.64) indicating 1 percent change in the import value brings about 0.64 percent change in the custom duty among all followed by negative discretionary impact due to tariff reduction.

The buoyancies of taxes with respect to GDP are more than unity with a minor exception on excise tax indicating that almost all components of tax revenue and the overall revenue are relatively more productive and responsive with respect to GDP than their proxy bases. As such, the tax system in Nepal is more influenced by the national income (GDP). Also the tax buoyancies are greater in most cases or at least equal with respect to GDP than/with the proxy bases.

However, the elasticity of different tax sources with respect to GDP are also not much differed in magnitude from that of proxy bases. The results indicate in general that 1 percent change in the GDP leads to a change in the selected taxes in a range of 0.48 percent to 0.59 percent. Looking at the whole as well as sub-sample periods, the post-liberalization period

shows relatively greater buoyancy and smaller elasticity in most cases with the exception on custom duty. Similarly, the discretionary impact remained higher in most cases for the post-liberalization period.

The lower elasticity for both tax-to-base and tax-to-income in the post-liberalization period shows that tax collection has not increased in proportion to the growth in tax bases, due to administrative inefficiency, tax exemption and evasion, weak enforcement of law, corruption, etc. The higher elasticity of custom duty in the post-liberalization period indicates a positive impact of trade liberalization.

The relatively low buoyancy and elasticity of the tax system adversely impact on the built-in flexibility, and hence, accelerate the macroeconomic fluctuations and volatility. The dismal performance of the tax system is caused by low tax efforts and relatively low and declining development/capital expenditure. Also the estimation of buoyancy and elasticity without capturing the overall strength (including underground economy) of the GDP may have a downward bias.

The regression estimation of the import duty as a percentage of GDP as a dependent variable with that of the import, real effective exchange rate, unweighted average tariff rate and liberalization dummy has shown an expected sign of relationships. Similarly, the overall function with respect to the measurement indicators is highly significant with the exception of exchange rate. However, the magnitude of the coefficients of the selected variables shows very minimal effects on the dependent variable indicating a complex nature of the import tariff in totality with exemptions, nominal tariff for the raw materials and capital goods as well as a sizable aid import, etc., making the import function less explanatory. Nonetheless, import duty in Nepal is explained with theoretical underpinnings.

The indirect tax has still remained the major source in Nepalese revenue composition. However, the structural shift has been noticed from that of trade tax to domestic indirect tax like VAT. Moreover, if the increased rate of VAT in FY 2005/06 (13%) would be considered, the role of VAT would definitely be much higher.

The potential revenue loss with the fulfillment of WTO commitments estimated by the current study is Rs. 5588 million (about 25% of the import duty) which is based on the assumptions that the effective applied tariff rates of the base year (2004/05) would continue and other duties and charges (ODCs) would be completely eliminated. Such estimation is based on the import trade weighted tariff rates which is slightly higher than that of the Sauve's (2005) estimation of US\$ 55 million/ Rs. 4322.4 million and Custom Department's, Ministry of Finance preliminary estimates of Rs. 3795.3 million both of which accounts about 25 percent of the total custom duty. However, the estimation of the present study differs due mainly to methodological and other reasons that include (i) Custom Department harmonized system (HS) database for the import trade, (ii) such database has not included ODCs, (iii) import tariff and import values are reported but due to exemptions and other facility, the published data on import revenue might not reveal the actual position with that of the tariff rates and import values, (iv) provisions for concessions and the discretionary authority of the custom officials might have underestimated the official data, (v) calculations are based on the import weights of commodity/HS code respectively, etc. The potential revenue loss can be compensated through (i) trade creation as a liberalization impact, (ii) the increased rate and base of VAT, and (iii) bringing informal trade with India and Tibet, the Autonomous Region of China into formal channel, etc. Moreover, continuous reform on tax

administration and eliminating tax leakages are no doubt the essential factors in this endeavor.

In the absence of export/import prices and also the export/import elasticity of selected items, the sensitivity analysis of the trade in goods and their implications on the WTO regime as well as the benefit from the effective participation on the regional trading blocks like SAFTA, BIMST- EC FTA is difficult to analyze. Thus, the database on HS trade code and the respective trade revenue collection should further be developed with the close coordination of the related agencies. The capability of the Custom Department should be strengthened with the Technical Assistance and additional manpower for the development and management of database. The policy prescription with the detail lists of alternative measures of revenue collection recommended by the study would help enhance the revenue mobilization efforts and their efficient use.

The overall economic growth should be targeted to enhance the tax base as well as for the direct and positive effect on various taxes. VAT should be strengthened as broad base tax more smoothly to avoid the overburden and panic by the taxpayers and extended to distribution sector and agriculture inputs. The excise tax should be taken as a source of revenue collection. Incentives for commercial farming and agro-based industries, imposition of property holding tax and IT related services, custom infrastructure and administrative reform, bringing informal trade into formal channel, reform on non-tax revenue, empowerment for local government to mobilize resources and their efficient use, effective implementation of privatization policy, result-oriented economic diplomacy for mobilizing foreign assistance and counseling the debt relief appeal, encourage active civil society, etc., are some of the alternate measures not only to cover the possible revenue loss but also for the optimum mobilization of potential revenue and their efficient use. The policy action matrix has covered issues related to revenue collection, legal and institutional capacity building.

Chapter I

Introduction

1.1 Introduction

The international trade was facilitated with the beginning of General Agreement on Tariffs and Trade (GATT) in the late 1940s. The eight multilateral trade negotiating rounds organized under the auspices of GATT in Geneva (1947) (1955-56), Annecy (1949), Torquay (1950-51), Dillon (1960-61), Kennedy (1964-67), Tokyo (1973-79) and Uruguay (1986-94) led to the liberalization of trade barriers, along with this an unprecedented expansion of the world trade. Despite these efforts, the liberalization of trade since then has been focused on regional blocks like NAFTA, EC, EFTA, ASEAN, SAARC, etc., putting low profile to multilateral trade and further delaying the integration of the global economy. GATT was instrumental for the evolution of a strong multilateral trading system, which on 1 January 1995 was converted into the current World Trade Organization (WTO) framework.

The WTO regime, among others, has entrusted the theme that there should not be, nor need be, any policy contradiction between upholding and safeguarding an open, non-discriminatory and equitable multilateral trading system in view to move forwards for implementing most-favored nation treatment with the ultimate aim of free trade gradually reducing the trade barriers. As such, the tariff reduction to a certain level within a stipulated time period would have certainly a downward effect on the revenue mobilization through reducing import/custom duty, which in a country like Nepal, where the custom duty has been the major source of revenue, should have to be evaluated and explored the alternate measures to offset the likely revenue shocks. The notion of positive impact of trade liberalization on the revenue, which is a proven fact in some countries cases, may not be equally true in Nepalese like context where there is lack of infrastructure, weak and small scale and non-competitive industrial base, low potentiality of high value endogenous exportable-base leaving room for significant revenue effects through trade liberalization.

At this backdrop, the timing and sequencing is more relevant, since Nepal being a member of WTO could not avoid the increased global integration, in conducting a study regarding the revenue implications of WTO regime and the alternate measures for revenue mobilization.

1.2 Objectives

Gradual relaxation of non-tariff barriers and also reduction on tariff rates may help increase the trade volume which may help to offset partly to the possible revenue loss in Nepalese like context where there is lack of readily available endogenous based export potentiality unlike in a country where there is the benefit of large scale operation with sufficient industrialization to enhance the export base with a greater competitive edge. Therefore in finding more feasible alternate measures through structural/compositional/policy reforms are essential needs to fulfill the possible gap to be happened in the process of revenue mobilization in the WTO regime. In this context, obviously the broad objective is to assess the overall implications of WTO regime on economic activities, and thereby, on government revenue. However, looking at the timeframe and also to the data base, among others, the specific objectives are focused on to the trade in goods while dealing with the revenue implications. Thus, the main objectives of the study are to:

- Assess implications of WTO regime on economic activities and thereby, on government revenue;
- Explore the alternate measures for revenue mobilization, and;
- Ascertain legal, institutional and structural constraints.

1.3 Limitations

Since the research assignment is effective for a short period, the study attempts to deal more with the core objectives as mentioned above. To be more specific to the issue, the data/information are dealt with the major focus for the period of trade liberalization so as to capture the trend in custom duty in particular and the revenue in general. The interactions are basically targeted to revenue officials / concerned policy makers and WTO related experts. However, the empirical analysis of revenue implications depends on the availability of data/information with special concentration on trade in goods. The study therefore is focused on trade in goods while the rest sectors/areas related to WTO may need further research in depth while assessing their impact on revenue mobilization. However, looking at the importance of the tax/revenue responsiveness and productivity, the study attempts a rigorous analysis together with compositional and structural shift of the Nepalese tax system.

1.4 Methodology

In order to meet the set objectives, the study attempts to include both quantitative and qualitative techniques. Since the buoyancy and elasticity are used for the measurement of tax responsiveness / productivity, an estimation of the selected tax/revenue items that are relevant in the context of WTO regime is performed. As such, the buoyancy and elasticity are estimated for custom duty, value added tax (VAT), excise tax, income tax with their proxy bases as tax-to-base and all of these components together with the total revenue are also estimated in the form of tax-to-income. A change in the revenue that happens due to change in tax base is known as automatic effect whereas the change in revenue due to change in tax rates, coverage and imposition of new tax is known as discretionary effect. In other words, the discretionary tax measures are under the control of policy makers who generally can influence through changing tax rates and base as well as changing the collection and enforcement of laws whereas non-discretionary changes are due to natural growth of tax base and the economy.

The combined total effect of the two components (automatic and discretionary) shows the buoyancy of tax/revenue while the automatic component alone shows the elasticity of the tax/revenue. Moreover, the buoyancy of a tax measures the responsiveness of tax to changes in proxy bases and income irrespective of discretionary changes whereas the tax elasticity needs adjusted/cleaned tax/revenue without the effect of discretion. For this, the popularly known Sahota's (1961) technique seems more relevant in case of weak database for the calculation of tax elasticity.

$$NR_t = \frac{AR_t - DR_t}{AR_{t-1}} \times NR_t$$

Where, NR_t = Net/adjusted tax/revenue in year t

AR_t = Actual revenue collection in year t

DR_t = Proportional revenue collection through discretionary changes in year t

Thus, the following functions with their respective bases such as import volume for custom duty, private sector consumption for VAT/excise tax, non-agricultural GDP with one year lag for income tax as tax-to-base and total GDP for total revenue as well as other tax heads as mentioned earlier as tax-to-income are estimated to see the buoyancy and elasticity of tax/revenue.

In the process of trade liberalization or with the WTO regime, the focus is generally on the medium to long-term effects. Obviously, in the short and medium-term policy, the expected result might be the possible loss of trade revenue due to tariff reduction, which no doubt immediately impacts on government budgetary accounts. Nonetheless, this would provide an opportunity to turn in favor with increase in the growth of trade. However, the economy with narrow tax base as well as lack of replacement for the trade revenue by broad base tax like VAT may have to face sever strain in the short-run. The situation will depend on the productivity of trade tax (custom) and other likely replacement taxes. The buoyancy / elasticity of tax can be obtained by a linear regression equation of the form;

$$T = \alpha + \beta Y + \nu$$

Where, T = tax revenue; Y = income (GDP), and also this refers to income level in tax-to-income and proxy base in tax-to-base; α = constant; β = marginal rate of taxation.

This method is applied for the estimation of the following tax-to-base and tax-to-income functions.

$$CD_t = f(IM_t).....(1)$$

$$VAT_t = f(PVC_t).....(2)$$

$$ET_t = f(PVC_t).....(3)$$

$$IT_t = f(NAGDP_{t-1}).....(4)$$

$$CD_t / VAT_t / ET_t / IT_t / TR_t = f(GDP_t).....(5)$$

- Where, CD_t = custom duty for year t
- IM_t = volume of import for year t
- VAT_t/ET_t = value added tax/excise tax for year t
- PVC_t = private sector consumption for year t
- IT_t = income tax for year t
- $NAGDP_{t-1}$ = non-agricultural GDP for one year lag
- TR_t = total revenue for year t
- GDP_t = total GDP for year t

The trade revenue / custom duty is influenced by many factors such as trade liberalization in terms of liberalizing non-tariff barriers and tariff barriers, overall tariff rate, exchange rate regime and rate, impact of trade liberalization on the economic growth, tax administrative reforms, etc. Although the international trade has gradually been liberalized in Nepal since the second half of 1980s but the full convertibility of the current account and the agreement

on Article VIII with the IMF as is commonly anchored elsewhere, the study uses the year 1994/95 for the trade liberalization dummy since Nepal received the status of the acceptance of Article VIII of IMF in May 1994. In view to finding the determinants of import duties, the commonly used approach of Ebrill et al (1999) as well as with some modification in addition to their specification is used in the form of the following estimating equation.

$$IDY_t = a + bIMVY_t + cREER_t + dOTR_t + eDUM + v_t$$

Where; IDY_t = import duty as a percentage of GDP,
 $IMVY_t$ = import trade as a percentage of GDP,
 $REER_t$ = real effective exchange rate,
 OTR_t = un-weighted overall average tariff rate,
 DUM = dummy variable $\begin{cases} 0 \text{ for } 1974/75 - 1993/94 \\ 1 \text{ for } 1994/95 - 2004/05 \end{cases}$

a, b, c, d and e are parameters to be estimated and v_t is the error term.

The import / GDP ratio is included to isolate the effect of trade liberalization as a relation to the effect on revenue. Exchange rate is obviously expected to represent the macroeconomic effect whereas the liberalization dummy and the un-weighted overall average tariff rate would be useful to indicate the direct effect of the reduction in the average tariffs on import revenue.

The study on the basis of data availability attempts to estimate the quantitative impact of trade in goods in particular on revenue mobilization. The data / information of the Custom Department, Ministry of Finance, Nepal Government, UNCTAD, WTO, World Bank, etc., are used for the quantitative analysis. Also the study for its part of the quantitative impact attempts to compare with the earlier estimations in view to validate its findings.

Chapter II

WTO and Nepal

2.1 Emergence of WTO Membership

In the postwar period, Nepal, as elsewhere in the developing context, pursued an inward looking strategy of import substitution policy. In most of the developing countries, the inward looking policy or a balanced export/import development strategy became a pressing need during the 1970s and 1980s. Being an Indian locked country in the sense of open border, easy and free capital mobility, Nepalese economy was virtually integrated with India and bound to adopt inward looking policy since India had a strongly inward looking policy throughout its independence history till early 1990s. Nonetheless, Nepal's restrictive trade and foreign exchange regime was effective for countries other than India. Nepalese trade was highly concentrated to India accounting for more than 82 percent of the total trade in mid-1970s. Since the first trade and transit agreement with British India in 1923, Indian goods were granted free accessibility to Nepal.

The dilemma of trade deflection to India from the import of third countries by Nepal as well as the informal trade which is one-third of formal trade (Karmacharya et al 2002) through the open border and free flow of movements making the tariff structure less effective. The periodic development planning chose a controlled trade regime with quantitative restrictions, high tariffs, import controls, etc., emphasizing the priority for import substitution, public sector-led industrialization with a regulated private sector.

However, due to external shocks as well as domestic macroeconomic instability basically during the first half of 1980s, Nepal induced a liberal trade policy, among others. The protectionist measures reflected disparate attempts to lead into a critical balance of payments (BOP) problem witnessed during the period 1982-85 leading to a severe depletion of foreign exchange reserves pressing Nepal to adopt stabilization program with the support of IMF in December 1985. As a successful consequence of stand-by arrangements with the IMF, Nepal further entered into the Structural Adjustment Facility (SAF - 1988) of IMF undertaking a number of reform measures in conjunction with the support of IDA Structural Adjustment Credit in 1987 and 1989. In other words, Nepal began a gradual shift from closed to open economic policy regime basically during the period of Seventh Plan (1986-90).

Although in the pre-liberalization period too, Nepal introduced some incentive schemes for export promotion like bonus system, dual exchange rate system, etc., while the import trade was restricted with the licensing system in view to promoting export and substituting import through protecting domestic industries. The import license auction system, which was introduced in 1986 gradually liberalized into open general license (OGL) system and came under OGL fully with the exception of certain specified items like gold,¹ silver, precious materials, drug, etc., in the aftermath of the partial convertibility in the current account of Nepalese rupee in March 1992.

By the time of trade and transit impasse with India (1^{1/4} year), Nepal formally applied for the membership of GATT on May 1989 resulting in the dispute as well as the establishment of

¹ Very recently, gold import also excluded from the restricted items and placed under OGL

the Working Party for membership of Nepal in GATT. After the dispute settlement with India when Nepal signed a new bilateral treaty with India in 1990, the urgency for Nepal to become a GATT member, so as to be protected under GATT Article V on transit rights¹, weakened Nepal's accession under GATT 1947. WTO offered observer status to Nepal in 1995. The application of the membership in GATT and also the Working Party in relation to Nepal transformed into WTO. Nepal submitted a Memorandum of Foreign Trade Regime to the Working Party in July 1998 as a prerequisite to the accession procedure. A chronological list of the processing activities and necessary actions are presented below.

Nepal's Accession Process to the WTO

| Process | Date |
|---|-------------------------|
| Application for accession | May 1989 |
| Working Party establishment | 1989 GATT Working Party |
| Converted into WTO Working Party | December 1995 |
| Submission of Memorandum on Foreign Trade Regime | July 1998 |
| Clarification on Memorandum on Foreign Trade Regime | June 1999 and June 2000 |
| First Meeting of Working Party | May 2000 |
| Tariff Offers | July 2000 |
| Service Offers | July 2000 |
| Second Meeting of Working Party | September 2002 |
| Third Meeting of Working Party | August 2003 |
| WTO's 5 th Ministerial Conference, Cancun, Mexico, approved the accession package | September 2003 |
| Nepal government notified the WTO that the process of ratification and acceptance of the Protocol of Accession had been completed | March 2004 |
| Entry into to enforce the Protocol with Nepal becoming the 147 th member of WTO | April 2004 |

Source: Nepal Rastra Bank

Nepal being a land locked country attempted to integrate into world market through regional groups/blocks much earlier than its immediate neighbors. Obviously, Nepal being a small country cannot influence international prices through its demand and supply decisions rather it is a price taker. No doubt, there are both challenges and opportunities for a small country like Nepal to compete in a sustained manner with other developing and developed countries by entering into free trade. Had Nepal not decided for the accession in WTO, it will have to forgo opportunities in the medium to long term from the unavoidable global integration though in the short-run, it should have to bear challenges over opportunities.

Nepal in the process of trade liberalization has had a double-pronged strategy of multilateral trade negotiations with WTO regime and meaningful regional trading arrangements being an active member of the South Asian Free Trade Area (SAFTA)¹ and the Bay of Bengal Initiative for Multi-sectoral Technical and Economic Cooperation Free Trade Area

¹ According to Article V, there will be freedom of transit through the territory of each contracting party, via the routes most convenient for international transit, as well as traffic in transit to or from the territory of other contracting parties.

¹ SAFTA was adopted at the 12th SAARC Summit held in Islamabad, Pakistan, on 4-6 January 2004 and the then all SAARC member countries were the signatories.

(BIMST-EC FTA)². Similarly, Nepal is a founding member of Asian Clearing Union (ACU), which is being used as an effective payments settlement mechanism within the member countries.

The WTO is a recognized international economic organization and its agreements are of permanent nature. Moreover, the dispute settlement in WTO is free from veto power as well as faster. Unlike in the GATT, WTO has member countries and it covers not only the trade in goods but also trade in services and intellectual property rights. The major commitments that Nepal has made in WTO are as follows.

Major Commitments made by Nepal in the Process of accession to WTO

| Commitments | Deadline |
|---|-----------------|
| Agricultural tariffs – (final offer 42 percent) | 31/12/2006 |
| Industrial tariffs - (final offer 24 percent) | 31/12/2013 |
| Full implementation of Trade-related Intellectual Property Rights (TRIPS) Agreement | 31/12/2006 |
| Full implementation of Sanitary and Phytosanitary (SPS) Agreement | 31/12/2006 |
| Full implementation of Technical Barriers to Trade (TBT) Agreement | 31/12/2006 |
| Full implementation of Customs Valuation Agreement | 31/12/2006 |
| Restriction on exports subsidy on agriculture | Accession date |
| Not to impose new Trade Related Investment Measures (TRIMS) | Accession date |
| Zero tariff on Information Technology (IT) products | 31/12/2008 |
| Complete phasing out of Other Duties and Charges (ODCs) | 31/12/2013 |
| Liberalization of 11 services sectors and 70 sub-sectors | Accession date |

Source: WTO (2003)

2.2 Opportunities

- Among others, Nepal can be benefited with the membership of WTO through (i) enhancing discipline of policy makers to maintain policy credibility for the fulfillment of WTO commitments; (ii) complying discipline on the part of the trading partners accessing their markets for Nepal and trans-shipment rights; and (iii) ensuring reform and institutional improvements as per WTO-requirements.
- Being a member of WTO, Nepal can enjoy the MFN status in which the import tariff imposed by the member countries be substantially reduced. Nepal, in the case of dispute, can settle under the dispute settlement mechanism for a fair trade within WTO member countries. Also as a least developing country, Nepal enjoys the Generalized System of Preferences (GSP) through which industrialized higher income countries grant preferential access to their markets. Nepal has an unchallenging scenic beauty with a long history of landscapes, ancient cultural tradition, heritage and hospitality of the people. Nepal can penetrate to more markets for its products by improving quality as well as competitiveness allocating its resources to more efficient and highly productive sectors.

² The member countries of BIMST-EC FTA are Bangladesh, Bhutan, India, Myanmar, Nepal, Sri Lanka and Thailand.

- Nepal as a member of WTO can attract foreign investment and technology transfer in view to quickly absorbing modern science and technology with the help of development of skills and educated labors. The terms and conditions of WTO facilitate Nepalese people with the access of more variety of products on better prices and quality. This situation may help the Nepalese entrepreneurs to invest more on technology advancement in the production process in view to increasing competitiveness. Moreover, Nepal as a member country can be benefited through better market accessibility for its export, protection of transit rights in line with WTO rules, continuation of liberalization and economic reform, persuasion for transparent and rule-guided trade policy as incentives for traders and enhance exposure through dispute-settlements and multilateral trade negotiations. Nepal should improve its competitiveness under compulsion with quality control in a cost-effective manner to survive.

2.3 Challenges

- The potential revenue loss through rationalizing tariff structure confining to the binding tariffs and also phasing out other duties and charges, Nepal needs to innovate new revenue instruments with expanding its tax base for the compensation of possible revenue loss. No matter, benefits of accession are likely realized in future whereas the possible cost/loss in tariff revenue may happen earlier.
- Nepal has very limited products to compete in the world market and also the international demand for the Nepalese products is very low due to their low quality with non-competitive price. For this, Nepal needs specialized vision for the development of comparative advantage with the constraints of lack of capital, knowledge, technology know how, entrepreneurs, skills and educated manpower, etc.
- Nepal needs to improve the legal/regulatory framework and to strengthen reform agenda with the compliance to the WTO rules and the commitments, it has made. For this, the government and also the private sector should function more competently with a greater degree of innovations and familiarity with the international practices. The managerial capacity in all sectors is a matter of concern, which needs a greater capacity building together with professional skills and accustomed with international partners.
- Since Nepal will have to open its domestic market such as the sectors of banking and finance, insurance, telecommunication, etc., there will be a real difficulty to compete with the foreigners. Some of the institutions that are now surviving in the absence of tough competition may be unable to compete in the open and competitive environment.
- Lack of trained and highly skilled manpower, Nepal may suffer severally not only to compete but also to adapt high-tech production and services process. Also in the WTO regime, the unemployment may further deteriorate due to economic restructuring and closer of monopolist and inefficient government's enterprises resulting in further gap between haves and have-nots.

Chapter III

Revenue Implications of WTO Regime in Nepal

3.1 Economic Performance

The economic growth, which is considered as a scale variable for the overall macroeconomic indicators, has shown a mixed trend during the review period (1971-05). The growth was as low as 2.4 percent on average in 1970s peaked a growing record height of 4.3 percent in 1980s and 4.9 percent in 1990s. However, due to intensification of internal conflict and political instability, the economic growth during 2001-05 backtracked to the initial period at a level of 2.8 percent on average. Nonetheless, a significant structural change has been witnessed in the compositional patterns of GDP during the review period. As such, the contribution of agriculture sector came down to 38.8 percent in the first half of the current decade on average from a higher record of 62.7 percent of the 1970s. Subsequently, services sector witnessed comparatively a faster growth and recorded a share of 40.0 percent in the last sub-period from a level of 24.6 percent in the first reviewed sub-period followed by the industrial sector with a moderate growth in the share from that of 12.7 percent to 21.2 percent during the period. Obviously, over the period government policies could not remain conducive for the growth orientation of industrial sector.

The inflation as measured by consumer price index (CPI) with the exception of the first half of the current decade (3.7%) remained either at double digit (1981-90: 10.2%) or at a higher side of single digit (8%) on period average basis. The government revenue and expenditure as a percentage share of GDP also increased over the time whereas the excess of expenditure over revenue became a continuous feature due to increased regular/recurrent expenditure fueled by inflation and in the recent past, with an unprecedented acceleration in the security expenses, among others.

Trends of Selected Economic Indicators (Average *in* %)

| | 1971-80 | 1981-90 | 1991-00 | 2001-05 |
|--------------------------|---------|---------|---------|---------|
| GDP Growth | 2.4 | 4.3 | 4.9 | 2.8 |
| Share in GDP | | | | |
| Agriculture | 62.7 | 52.8 | 41.8 | 38.8 |
| Industry | 12.7 | 15.0 | 19.5 | 21.2 |
| Services | 24.6 | 32.2 | 38.7 | 40.0 |
| Total Revenue/GDP | 6.5 | 8.5 | 9.8 | 12.4 |
| -Tax Revenue/GDP | 5.2 | 6.8 | 7.6 | 9.6 |
| Expenditures/ GDP | 11.0 | 17.6 | 16.8 | 16.6 |
| Total Trade / GDP | 29.4 | 34.0 | 56.9 | 50.7 |
| Export / GDP | 12.1 | 12.0 | 22.8 | 18.9 |
| Import / GDP | 17.3 | 22.0 | 34.1 | 31.8 |
| Inflation | 7.8 | 10.2 | 8.3 | 3.7 |
| Exchange Rate (NRs/US\$) | 11.4 | 19.6 | 58.6 | 75.2 |

Source: Nepal Trade and Competitiveness Study, 2004, MOIC, Nepal Government, and Economic Survey, 2004/05, Ministry of Finance, Nepal Government.

The degree of openness of an economy is measured in terms of the sum of exports and imports as ratio of either GNP or GDP while the ratio of exports to GDP can be used as a yardstick to measure the export dependency ratio.³ Looking at the trend of the total trade, Nepal has been moving with a greater degree of openness from as low as 29.4 percent during 1970s to 50.7 percent during 2001-05. Similarly, the degree of exports-dependency ratio has also been getting momentum in the post-liberalization period of international trade. Such export dependency ratio, which was 12.1 percent in 1970s, reached 18.9 percent by the end of the reviewed sub-period. Looking at the nominal context, the export trade could not be benefited with respect to the depreciation of the Nepalese rupee with US\$ term which was depreciated by about 7 times during the period reviewed. Similarly, the import trade has been increasing faster than the export even at a higher cost. For the development and diversification of trade, Nepal had signed Trade and Cooperation Agreements with 17 countries and one regional block, i.e. European Union.

Selected Comparative Macroeconomic Indicators

| | Nepal | | India | | Pakistan | |
|-------------------------|---------|---------|---------|---------|----------|---------|
| | 1995-99 | 2000-04 | 1995-99 | 2000-04 | 1995-99 | 2000-04 |
| Growth Rates (%) | 4.26 | 3.50 | 6.50 | 5.80 | 3.34 | 4.52 |
| Inflation (%) | 8.74 | 3.52 | 8.85 | 3.94 | 8.87 | 4.23 |
| Exchange Rate with US\$ | 60.12 | 75.20 | 37.70 | 46.53 | 40.68 | 58.26 |
| As a percentage of GDP | | | | | | |
| Export | 8.72 | 11.90 | 8.23 | 9.59 | 14.53 | 13.71 |
| Import | 29.54 | 27.38 | 9.96 | 11.68 | 18.52 | 16.11 |
| Revenue | 11.00 | 12.00 | 12.21 | 13.14 | 16.51 | 13.88 |
| Budgetary deficit | 5.34 | 4.56 | 5.11 | 4.74 | 7.16 | 3.63 |

Source: International Financial Statistics, Yearbook, 2005, IMF.

Looking at the trend of selected indicators, the inflation rate contained in the later period compared to the former whereas the domestic currencies has been highly depreciated in nominal terms with the US dollar. The other indicators like economic growth, export, import, revenue and budget deficit as a percentage of GDP have shown a mixed trend making it difficult to draw conclusive inferences. However, the budgetary deficit in all the selected countries in the later period has remained fairly below than 5 percent of the GDP.

3.2 The Fiscal Scenario

The composition and the patterns of revenue mobilization in Nepal for the last three decades reveal a slow growth in the overall revenue due mainly to low tax base and income level, inefficient tax administration, weak enforcement of laws, tax evasions and exemptions, corruption, etc. As per the rules of WTO and also the commitments made by Nepal on the accession of WTO as the 147th member which was one of the least developed countries (LDCs)⁴ joining the Organization through full Working Party negotiations. The impact of WTOs' guidelines is difficult to access in terms of commitments undertaken by Nepal since there is no evidence of any effect. The accession document reflects on the strengths and weaknesses of the accession process in light of the experiences and analyses the accession process in terms of its compatibility with general development objectives that are support to underpin the accession of LDC to the WTO (Pierre Sauve, 2005). As such, a detailed analysis

³ For further detailed analysis see Paudel (1994)

⁴ Cambodia is the other LDC of becoming 148th member in the similar process.

regarding the strength, weakness, opportunity and threats (SWOT) in the context of the membership of Nepal in WTO has not sufficiently worked out.

The trade liberalization and the structural reform in conventional term benefits the economy from increased trade and its pass through effect. But in recent years, views on the issue of liberalization and structural reform have tended to diverge more widely (Rodrik, 2001). Looking at the far-reaching commitments in the services sector, it is really a great challenge for Nepal in undertaking the improvements of various legislative/regulatory framework and their implementations by enhanced capacity building of the regulatory authorities. This is the area perhaps a large number of concessions have been made and where significant post accession implications might be expected, given the critical importance of services for macroeconomic performance and thus national development (World Bank, 2004).

With the philosophy of WTO, many countries in recent decades have liberalized their economies for global integration. Trade liberalization is seen to promote economic efficiency, international competitiveness, and an expansion of trade, perhaps especially in imperfectly competitive markets (Escolano, 1995; Krueger, 1995). Also it is universally accepted fact that trade liberalization is a booster for economic efficiency and growth. The trade liberalization may be adapted through tariffication by lifting the non-tariff barriers and also from reducing the tariff rates. The trade liberalization normally became successful where the initial conditions and reform strategy were quite focused.

It is a general tendency that the trade liberalization will have a negative impact on revenue since the developing country like Nepal bears a significant size of the share of trade revenue over the total revenue. However, the trade reform measures and their implications on the revenue can be positive, negative and neutral depending on the nature of restrictions and the characteristics of a particular country (Ebrill et al, 2002).

Revenue Impact of Trade Liberalization

| Trade reform | Expected revenue impact |
|--|-------------------------|
| Replace non-tariff barriers with tariffs | Positive |
| Eliminate tariff exemptions | Positive |
| Eliminate trade-related subsidy | Positive |
| Reduce tariff dispersion | Ambiguous / Positive |
| Eliminate state trading monopolies | Ambiguous / Positive |
| Reduce high average tariffs | Ambiguous |
| Lower maximum tariff | Ambiguous |
| Reduce moderate or low average tariffs | Negative |
| Eliminate export taxes | Ambiguous / Negative |

Source: IMF and World Bank staff estimates (Ebrill et al, 2002).

In the context of WTO rules, first, import tariff should be reduced on MFN basis. In other words, the tariff should be equal both for the domestic products and imported items. Second, import duties can be used only for the protection of domestic products rather than making them the instruments for revenue mobilization. Also national revenue can be mobilized up to the level of protection needed. Third, custom valuation should be based on transaction value whereas Nepal has been using the basis of transaction prices⁵. Fourth, export/import charges and duties should only be sufficient for administrative expenses and also the direct export

⁵ In case of unavailability of transaction prices, the reference rate is used for custom valuation.

subsidy cannot be provided. Moreover, quota/control system cannot be imposed in view to controlling export and import trade. As a common binding custom duty, revenue mobilization will be focused on VAT, income tax, expanding tax base and reform on tax administration to compensate the possible loss from tariff rationalization.

3.2.1 Revenue Analysis

A number of tax reform measures were undertaken as mentioned earlier during the trade liberalization period. The reforms include enhancing tax administration in view to inducing tax efficiency; introducing VAT; rationalizing large number of import tariffs in a smaller number; simplifying income tax-slabs and gradual shift from trade-based tax to domestic production/consumption based tax.

The tax burden measured in terms of nominal tax/GDP ratio increased from 5.2 percent during 1970s to 9.6 percent during 2001-05 averaging 7.3 percent for the review period. Going through the average growth rates of total revenue and its composition, it is obvious that the trade liberalization as well as the relatively higher economic growth helped increase significantly in all the revenue heads during the sub-period 1986-95. As such, with the exception of excise tax, the total revenue with its major components recorded about 20 to 24 percent growth with a wider excess over the pre-liberalized era. Moreover, the sub-period 1991-95 remained a golden period retaining the highest historical growth in overall revenue mobilization attributed to the highest economic growth with sound macroeconomic management and relatively stable political environment. During this period, the stable government introduced rapid liberalization on trade, industrial policy, foreign exchange regime, financial sector, privatization, and on top of these, the development expenditures were made very effective. As a result, the overall macroeconomic indicators witnessed robust growth attributable to higher economic growth. However, the situation could not sustain mainly because of the political instability, among others. The economic effects of trade liberalization as well as other economic activities were no doubt reflected in a feedback relationship of cause and effect with the support of gradual liberalization in both the tariff and non-tariff barriers.

However, Nepal witnessed a sharp deceleration in almost all the component of revenue after mid-1990s due mainly to the following major reasons.

- Nepal has been removing the non-tariff barriers as well as rationalizing the tariff rates in line with the global integration and also creating conducive environment for the participation in the WTO with little room in benefiting from the tariffication with a gradual deceleration in the economic growth, among others.
- The internal conflict which has been acutely intensified during the last one decade hit hard the overall law and order situation not only distorting the development work but also disturbing the overall economic activities and destroying infrastructural facilities and productive /services units. At large, the situation created discouraging psychic effects both in the public and private sector resulting in a passive development ethos pressing the public sector to escalate the security expenditure leaving the development expenditure at a low profile.

With this backdrop, the growth in revenue collection decelerated significantly during the last decade. Looking at the compositional share, the tax revenue occupied nearly a four-fifths of

the total revenue although at a slowly declining trend accompanied by an opposite trend in the non-tax revenue during the review period. During late 1970s, tax and non-tax revenue as a percentage of total revenue stood at 81.7 percent and 18.3 percent respectively, which reached to 77.5 percent and 22.5 percent respectively during 2001-05. Similarly, within the tax revenue, the indirect and direct tax that were 65.1 percent and 16.6 percent of the total revenue respectively during the second half of 1970s marginally changed to 59.1 percent and 18.4 percent during the last sub-period reflecting a weak income growth and anti-synthesis of progressive tax. However, income tax though not satisfactory has been moderately increased its share in the total revenue due to increase in tax base in the recent decade.

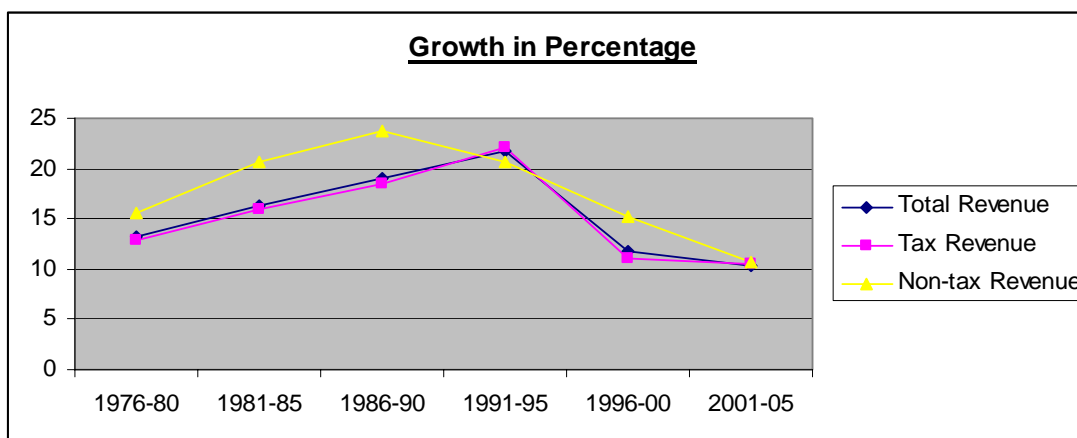
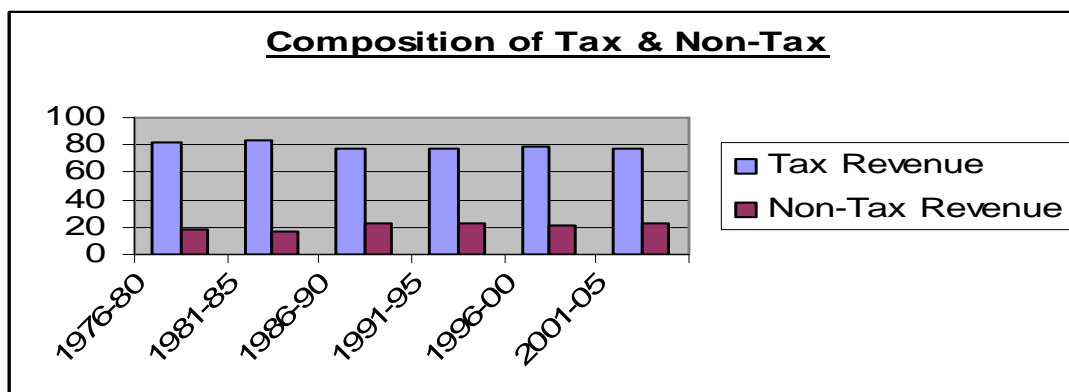
The custom duty which was about 31.7 percent of the total revenue and 48.7 percent of the indirect tax respectively in the second half of 1970s came down to 24.7 percent and 41.8 percent of the same during 2001-05 still indicating a trade-based revenue patterns. The value added tax though is of recent origin in Nepal has been emerging at par with the custom duty very recently occupying 41.5 percent share in the indirect tax. This also clearly implies that the scope for VAT can be expanded in the future.

Growth and Share as Percentage

| Growth in % | 1976-80 | 1981-85 | 1986-90 | 1991-95 | 1996-00 | 2001-05 |
|-----------------------------|---------|---------|---------|---------|---------|---------|
| Total Revenue | 13.17 | 16.36 | 19.07 | 21.67 | 11.80 | 10.40 |
| Tax Revenue | 12.88 | 15.91 | 18.47 | 22.17 | 11.06 | 10.43 |
| Non-tax Revenue | 15.57 | 20.63 | 23.73 | 20.65 | 15.18 | 10.69 |
| Direct Tax Revenue | 7.5 | 18.41 | 21.72 | 24.00 | 17.68 | 7.75 |
| Indirect Tax Revenue | 14.17 | 15.50 | 17.91 | 21.92 | 9.24 | 11.38 |
| Custom Revenue | 13.85 | 13.01 | 21.12 | 21.58 | 9.14 | 7.92 |
| VAT | 17.64 | 16.45 | 14.39 | 29.81 | 10.61 | 14.42 |
| Excise | 19.91 | 20.20 | 17.30 | 12.42 | 7.37 | 13.43 |
| Income Tax | 23.26 | 25.59 | 25.25 | 26.78 | 23.01 | 7.80 |
| Share in Total Revenue in % | | | | | | |
| Tax Revenue | 81.68 | 82.72 | 78.03 | 76.96 | 78.26 | 77.53 |
| Non-Tax Revenue | 18.32 | 17.28 | 21.97 | 23.04 | 21.74 | 22.47 |
| Indirect Tax | 65.08 | 68.74 | 64.22 | 64.07 | 59.97 | 59.08 |
| Direct Tax | 16.60 | 13.99 | 13.81 | 12.88 | 18.29 | 18.44 |
| Custom | 31.67 | 28.62 | 28.09 | 26.93 | 26.04 | 24.69 |
| Income Tax | 7.62 | 7.59 | 8.82 | 8.15 | 14.76 | 16.28 |
| Share in Indirect Tax in % | | | | | | |
| Custom | 48.69 | 41.57 | 43.72 | 42.02 | 43.44 | 41.79 |
| VAT ¹ | 27.63 | 33.17 | 29.20 | 34.67 | 37.47 | 41.47 |
| Excise | 15.36 | 17.33 | 17.39 | 14.92 | 11.48 | 9.90 |

Source: Economic Survey, Nepal Government, Various Issues.

¹ VAT was introduced in 2054 (B.S.)



Looking at the various sectoral revenue growth, one can see the higher growth achieved during the first decade of gradual trade liberalization which was also the period of higher economic growth in the review period. As such, the trade liberalization if supported by economic growth among others might be instrumental for increasing the custom revenue through increased level of import trade and its pass through effect on export trade even at a lower tariff rates.

Trade tax: The unweighted average collected tariff rate has been declining over the period. The overall trade tariff/custom rate as a percent of total trade was as high as 12.9 percent during the second half of 1970s marginally declined up to second half of 1980s followed by a sharp declining trend during 1990s even though the volume of international trade had been increasing reflecting a downward revision in the tariff rates.

Unweighted Average Collected Tariff Rates (in %)

| | 1976-80 | 1981-85 | 1986-90 | 1991-95 | 1996-00 | 2001-05 |
|-------------|---------|---------|---------|---------|---------|---------|
| Total Trade | 12.93 | 11.36 | 11.14 | 8.07 | 7.34 | 8.03 |
| Import | 13.54 | 13.00 | 13.04 | 9.27 | 8.18 | 8.75 |
| Export | 4.14 | 2.64 | 1.95 | 1.37 | 0.84 | 1.35 |

Source: Economic Survey, Nepal Government, Various Issues.

The trend of such average collected tariff rate was in line with all countries group in the world. In the recent decade export duty has remained just for record purpose, the import tariffs have been dominating the collected total trade tariff. However, the excise refund and

other duties and charges that are included in the total trade tariff making it larger to some extent. Obviously, due to free and competitive trade practices the tariff rates in the developed context revealed as low as 4 times compared to Nepal.

The trend of collected trade tax revenue as a percentage of GDP has marginally been increasing over the last three decade. As such, the ratios in the latest sub-period recorded at 3.2 percent and 2.3 percent in the case of total trade taxes and import duty respectively. This trend however has not in line with other countries cases where the trade liberalization had on average resulted in a decline in trade tax revenue as a percentage of GDP. A lower GDP growth compared to the growth in trade caused for a higher side. Due to nominal tariff in exports, the export tariff as a percentage of GDP with minor exception has been declining.

Taxes on International Trade (as % of GDP)

| | 1976-80 | 1981-85 | 1986-90 | 1991-95 | 1996-00 | 2001-05 |
|-------------------|---------|---------|---------|---------|---------|---------|
| Total Trade Taxes | 2.41 | 2.48 | 2.63 | 2.68 | 2.98 | 3.19 |
| Of which: | | | | | | |
| -Import Duties | 1.59 | 1.92 | 2.05 | 1.95 | 2.26 | 2.31 |
| -Export Duties | 0.24 | 0.13 | 0.10 | 0.12 | 0.09 | 0.16 |

Source: Economic Survey, Nepal Government, Various Issues.

Custom: As Nepal has made liberalization commitments in trade in goods, the prevailing applied custom tariff rates as mentioned in the report of WTO Working Party were in between 5 to 130 percent which have come down from a large number of categories into six tariff slots in the range of 5%, 10%, 15%, 25%, 40% and 80% within a short time span. The average bound tariff rate of Nepal was higher than its average applied tariff rate. The average tariff rate for both agriculture and industrial goods was about 11 percent (Bhandari, 2004). While the average bound tariff rate at the end for agriculture and industrial sector would be 42 percent and 24 percent respectively reflecting a significant scope for upward revision in these tariff rates. Other duties and charges (ODCs) in the range of 2.5 percent to 11.5 percent in case of industrial goods and 2.5 percent to 14.5 percent in the case of agricultural goods were levied. According to the commitments made by Nepal the other duties and charges will be eliminated over a period of time between 2 to 10 years as per the schedule of the Protocol of Accession making the ODCs bound at zero. The custom valuation system as mentioned earlier according to WTO rule is to base on transaction value approach whereas in Nepal the custom valuation is based on the transaction prices or reference rate.

3.2.2 Tariff Rate-wise Share in Import and Revenue

It shows that import duty on 19.2 percent of the import value is still levied on the items or quantity which has contributed 21.3 percent in the import revenue. Tariff rate-wise, 5 percent and 15 percent duty is charged for 22.4 percent and 18.0 percent of the import respectively whereas 14.2 percent of the import has zero tariff rates. Looking at the duty rate-wise revenue collection, the 15 percent duty slab has the highest (24.8%) share followed by 5 percent duty slab with the contribution of 10.3 percent in the import revenue. The higher tariff rate of 25 percent, 40 percent and 80 percent with a smaller share in the import more or less has similar contribution (11 %) to the import revenue. About 21.3 percent of the import revenue has been collected from the group of duty on quantity.

| Composition of Import Duty as per Tariff Rates | | Revenue as per Tariff Rates | | |
|--|--------------|-----------------------------|--|----------------------|
| | FY 2004/05 | (Rs in Million) | | |
| Tariff Rates % | Import Value | Import Revenue | Tariff Group - wise Share(%) In Import | Share (%) In Revenue |
| 0 | 20372 | 0 | 14.23 | 0 |
| 1 | 5702 | 57 | 3.98 | 0.37 |
| 2.5 | 3548 | 89 | 2.48 | 0.57 |
| 5 | 32080 | 1604 | 22.41 | 10.29 |
| 6.75 | 2806 | 189 | 1.96 | 1.22 |
| 10 | 11628 | 1163 | 8.12 | 7.46 |
| 15 | 25773 | 3866 | 18.01 | 24.81 |
| 25 | 7143 | 1786 | 4.99 | 11.46 |
| 40 | 4366 | 1746 | 3.05 | 11.21 |
| 80 | 2205 | 1764 | 1.54 | 11.32 |
| Sub-total | 115623 | 12264 | 80.78 | 78.70 |
| Duty on | | | | |
| Quantity | 27515 | 3319 | 19.22 | 21.30 |
| Total | 143138 | 15583 | 100.00 | 100.00 |

Source: Annual Commodity – wise Description, Custom Department, MOF, Nepal Government, FY2004/05.

Value added tax: Nepal introduced the VAT in FY 1997/98 replacing the sales tax and all other existing taxes on services including entertainment, hotel and contract taxes. By the time of introduction the rate for the taxpayers registered in VAT was 10 percent whereas it was 20 percent for those taxpayers who do not report to the VAT office. The rate of VAT has been increased to 13 percent in the FY 2005/06 as an attempt to the direction to compensate the impact of tariff rationalization in line with the WTO commitments.

3.2.3 Structural Shift on Revenue

The tax composition in Nepal is still dominated by the indirect tax. The indirect tax is incidental on the transaction based on expenditure whereas the direct tax is based on the money income receipt of the taxpayers. No doubt, the nature of direct tax is more progressive and not shifting backward. Indirect taxes are imposed normally for the proper allocation of resources through curtailing the consumption and production. Because of the high average propensity to consume, the developing countries like Nepal rely on indirect taxes where the direct taxes, which is based on income and wealth is lacking due to low level of income and wealth holding.

Since Nepal had already received the observer status in the WTO in 1995, it became further pressing need for Nepal with no option to implement VAT as a broad base tax. Nepal had initiated the approach of gradual liberalization of international trade as early as mid-1980s, and also with the possible membership of WTO Nepal was bound to look the alternate measures of indirect taxes to compensate the possible loss of revenue upon the fulfillment of

tariff and non-tariff rationalization. Looking at the short period of implementation of VAT and also a single and constant rate of 10 percent throughout the period under review², the VAT has already become the dominating component of indirect tax.

Structural Shift in Indirect Tax with the Implementation of VAT

| Fiscal Year | Total Revenue (in million Rs) | Indirect Tax (in million Rs) | Indirect Tax/Total Revenue in % | Custom Duty/Indirect Tax in % | VAT/Indirect Tax in % | Excise Tax/Indirect Tax in % |
|-------------|----------------------------------|---------------------------------|---------------------------------|-------------------------------|-----------------------|------------------------------|
| 1997/98 | 32937.9 | 19926.9 | 60.50 | 42.67 | 35.74 | 14.48 |
| 1998/99 | 37251.0 | 21456.2 | 57.60 | 44.36 | 36.74 | 13.76 |
| 1999/00 | 42893.8 | 24597.1 | 57.34 | 43.96 | 40.07 | 12.72 |
| 2000/01 | 48893.6 | 29135.3 | 59.59 | 43.08 | 41.35 | 12.94 |
| 2001/02 | 50445.5 | 29292.8 | 58.07 | 43.21 | 40.84 | 13.00 |
| 2002/03 | 56229.8 | 33040.9 | 58.76 | 43.09 | 40.74 | 14.48 |
| 2003/04 | 62331.0 | 36974.2 | 59.32 | 42.07 | 39.16 | 16.84 |
| 2004/05 | 71322.2 | 41849.7 | 58.68 | 38.03 | 45.28 | 15.19 |

Source: Economic Survey, Nepal Government, 2004/05

The overall indirect tax has marginally been decelerated over the period whereas the excise tax as a percentage share in the indirect tax is on a lower side with some fluctuations. The custom duty as a percentage share in the indirect tax was as high as 43 percent by the year when the VAT was implemented. By the end of FY 2004/05, custom duty as a share in indirect tax came down to 38 percent whereas the VAT retained the share in the indirect taxes to more than 45 percent indicating the shift of Nepalese indirect taxes from trade tax to domestic indirect tax as VAT. Moreover, if the recently increased rate of VAT would be considered, the revenue collection from VAT would definitely be significantly higher in the days to come, if the base for VAT would be strengthened. Obviously, with the disturbed law and order situation accompanied by low profile of economic activity, the VAT will be more effective when the situation will be normalized and would be a better sustainable alternate in compensating the possible revenue loss from the tariff reduction in the WTO regime.

3.3 Estimated Buoyancy and Elasticity Analysis

As mentioned earlier the buoyancy is estimated with actual revenue mobilization in different major heads whereas the elasticity is estimated using the Sahota's method of cleaning the discretionary measures. The nominal measure of buoyancy and elasticity of major taxes with respect to their proxy bases as tax-to-base and the total revenue as well as the selected major taxes with respect to income (GDP) as tax-to-income were obtained by the estimated regression coefficients, which in detail are presented in Appendices I to VI.

3.3.1 Whole sample period (1975-05)

As seen the base buoyancy for the whole period was higher than unity in the case of VAT¹ (1.21) and income tax (1.10) with respect to private sector consumption and non-agricultural GDP respectively due to relatively low opportunity of tax evasion and tax exemption followed by near to unity in the case of excise tax (0.99) reflecting a more than/near to unitary responsiveness. The estimated coefficient of custom duty is less buoyant (0.85)

² Government increased the VAT rate to 13 percent from FY 2005/06.

¹ Although VAT was implemented in the late 1990s but all the items, which are included in VAT, were included for this purpose for the empirical analysis.

implying more possibility of tax evasion, administrative discretion and inefficiencies as well as the possibility of underground economy.

The base elasticity of the major taxes and of total revenue was estimated using discretionary cleaning approach as mentioned earlier. As seen the highest base elasticity (0.62) was found in the case of VAT indicating that 1 percent change in the private sector consumption results 0.62 percent change in the value added tax. Similarly, such elasticity was relatively lower in the case of excise tax (0.49), income tax (0.47) and custom duty (0.43) for the whole sample period. However, the overall elasticity results show that the growth of selected taxes yields in proportion to the nominal growth of the proxy bases is low.

Looking at the discretionary impact, which is the difference between the coefficients of estimated buoyancy and elasticity, is higher in the case of income tax indicating that this tax is heavily depended on the discretionary measure. The other tax heads have relatively lower impact such as the lowest one is custom duty (0.42) followed by excise tax (0.50) and VAT (0.59). The lowest discretionary impact on the custom duty though could not readily quantified might happen due to a sizable aid import and concessionary import such as raw materials, capital goods, etc.

The buoyancy of the taxes with respect to GDP are more than unity with the exception of excise tax (0.98) indicating that almost all components of tax revenue are productive and responsive with respect to the income level (GDP). As such, the buoyancy with respect to GDP is highest in the case of income tax (1.33) followed by VAT (1.19), total revenue (1.14) and custom duty (1.07). The tax buoyancies are greater in most cases or at least equal in the case of GDP than proxy bases.

The elasticity of different sources of taxes with respect to GDP are also not so much differed in magnitude from that of proxy bases. The lowest elasticity found in the case of excise tax (0.48) whereas the elasticity of other tax heads such as custom duty (0.52), VAT (0.58), income tax (0.57) and total revenue (0.59) indicates that 1 percent change in the GDP may help change in the selected taxes from 0.48 to 0.59 percent.

Because of the higher buoyancy of the selected tax sources with respect to GDP, the discretionary impacts are also higher in comparison with the proxy bases. Such impact which is higher in favor of income tax in the case of proxy base is even higher (0.76) by 0.10 percentage point followed by VAT (0.61), custom duty and total revenue each (0.55) and excise tax (0.50).

Also the buoyancy and elasticity test results are significant at 1 percent level with highly satisfied adjusted-R square. To avoid the serial autocorrelation problem as detected by the Durbin Watson statistics and to correct the errors, the Cochrane - Orcut method was used for every equation. The convergence has achieved in most of the cases in the range of 4 to 8 iterations.

3.3.2 First sub-sample period (1975-94)

The sub-sample for the pre- and post-liberalization period was chosen on the basis of the Article VIII affiliation with the IMF as a common anchor of the trade liberalization. The base buoyancy for the referred period is comparatively lower than for the whole sample period. The custom duty shows lower buoyancy (0.80) than excise tax (0.86) and income tax (0.93).

However, the buoyancy of VAT (1.10) for this period is exceeded by the buoyancy of the whole period by 0.11. On the whole, the first sub-sample could not reveal an effective response of the selected tax sources with respect to their proxy bases.

The base elasticity analysis for the referred period also shows a mixed trend. The highest elasticity (0.83) of the then component of VAT regressed with the private sector consumption reveals that 1 percent change in its proxy base leads to 0.83 percent change in the then respective taxes. Similarly, the base elasticity for the sub-period significantly improved than the whole sample period in the case of excise tax to 0.56 followed by the declining elasticity of custom duty (0.31) and income tax (0.35).

The lower base buoyancy followed by a slightly higher base elasticity of VAT placed the discretionary impact on it with a quite lower rate (0.27). Such discretionary impact for the referred sub-period increased in custom duty (0.49) than the whole period followed by a decelerating impact on excise tax (0.30) and income tax (0.58). All coefficients of the buoyancy and elasticity are significant at 1 percent level and adjusted-R² with minor exception remains at higher levels.

The buoyancy for the sub-period with respect to GDP has more or less followed the trend of the whole sample period. With the exception of excise tax (0.84), all other tax sources including total revenue have marginally exceeded the unitary level. The tax buoyancy of custom duty (1.01), VAT (1.04), income tax (1.10) and total revenue (1.07) reveals as in the case of whole period that the tax system itself is not responsive to changes in income. All the buoyancy coefficients are significant at 1 percent level with a higher respective adjusted-R².

Similar is the case in the sub-sample elasticity with respect to GDP. As the elasticity of VAT with respect to GDP is higher (0.77) than the whole period sample, it indicates the greater degree of progressivity and efficiency of this particular tax during the referred sub-sample period. The elasticity for other taxes include custom duty (0.39), excise tax (0.55), income tax (0.41) and total revenue (0.61). Thus, the relationship between the selected taxes and GDP shows the changes with a range of 0.39 to 0.77 percent in the taxes, if there is one percent change in the GDP. Elasticity coefficients are highly significant at 1 percent level with higher adjusted R².

The discretionary impact on the custom duty is higher (0.62) than in the whole period. Such impacts are quite lower for the VAT related taxes (0.27) and excise tax (0.27) followed by a higher degree of impact indicating tax changes improve tax yield on income tax (0.69) and total revenue (0.46).

3.3.3 Second sub-sample period (1995-05)

This period clearly reveals the fact that the trend of domestic direct and indirect taxes have remained buoyant in comparison to the custom duty. It is a common understanding that Nepal though gradually initiated the trade liberalization efforts during the second half of 1980s, but it has moved towards full liberalization both in terms of tariff and non-tariff barriers during the second sample period. The buoyancy of custom duty during the period is record low at 0.37, which is significant at 10 percent level with higher adjusted-R², shows a gradual reduction on trade tariff through the discretionary changes as an effort to accession in the WTO, among others. Also Nepal, which had a very restrictive trade regime with higher non-tariff barriers gradually liberalized during the 1990s, could not benefit through trade

liberalization as some countries did it as the benefit of tariffication. Thus, the overall effect as has been seen is nothing more than the custom duty being less responsive during this sub-sample period. The base buoyancy of other domestic taxes has become more responsive which include VAT (1.28), excise tax (1.50) and income tax (1.19) indicating a symbolic sign of tax progressiveness. All the coefficients are significant at 1 percent level with sufficiently enough adjusted-R².

The base elasticity for the second sample period reveals not only a lower trend but also some negative response. As such, the elasticity of custom duty as contrast to the buoyancy shows a high side at 0.64 reflecting that a change of 1 percent in the import volume brought about a change of 0.64 percent in the custom duty during that period. The negative elasticity of VAT during the period shows that an increase of 1 percent in the private sector consumption brought about a decline of 0.16 percent in the VAT but it is statistically insignificant. The major reason for this was a single rate of VAT throughout the sample period. The elasticity of excise tax (0.27) and income tax (0.18) shows a lower degree of changes in the respective taxes due the changes in their respective proxy base. All the elasticity coefficients except the VAT are significant at 1 percent level with sufficiently high enough adjusted -R².

During this sub period, the base discretionary impact was at a higher side in the case of VAT (1.44) due to negative elasticity followed by excise tax (1.23) and income tax (1.10) due to higher buoyancy and lower elasticity. This higher discretionary impact reveals that the tax policy reform would have a higher effect on the respective taxes.

During the second sub-sample period, tax buoyancy with respect to GDP for all the selected taxes are higher than unitary level. Rationalizing the trade tariff gradually and introducing the more effective consumption tax like VAT and broadening the tax base with rate in the income tax might have helped to increase the tax buoyancy. As such, the tax buoyancy of the VAT with respect to GDP shows a higher trend (1.35) followed by income tax (1.23), total revenue (1.20) and custom duty (1.02). This all reflect that the existing taxes were more responsive to changes in national income. All the coefficients with the exception of income tax, which is significant at 5 percent level with higher adjusted R², are highly significant at 1 percent level.

The tax elasticity of VAT with respect to GDP was with negative sign at the same magnitude though not statistically significant followed by a positive sign but not significant in the case of income tax also. The elasticity of the custom duty remained higher at 0.58 showing that 1 percent increase in the GDP brings about 0.58 percent change in the custom duty. Such elasticity with respect to GDP is quite lower for total revenue (0.24) indicating that there is a lower effect of the national income on the total revenue. However, with the exception as mentioned above other coefficients are significant at 1 percent level with reasonable adjusted - R².

Due to higher tax buoyancy and lower elasticity the discretionary impact with the exception of custom duty (0.44) remained very high on the total revenue (0.96), VAT (1.51), excise tax (1.28) and income tax (1.10) indicating the scope of reforming these tax rates. The highest discretionary impact in the case of VAT was due to the prevailing constant rate throughout the sub-sample period.

Going through the results, one can easily say that the tax system in Nepal is neither sufficiently revenue responsive to changes in national income (GDP)² nor adequately progressive enough based on the results of the selected taxes with respect to their respective proxy bases. For the tax system to be progressive enough, the degree of progressivity in the tax structure would result in elasticity greater than 2 (Dahal, 1984).

3.4 Estimated regression analysis

Further evidence on the effects of trade liberalization can be obtained by the use of the regression equation describing the determinants of the trade revenue represented by import duty as a percentage of GDP. The OLS was applied to the equation on level and log of selected variables. Since most of the variables are in percentage ratio form, the log level estimation could not produce any meaningful and reasonable results. Thus, the equation on level is the best fit in all options.

$$IDY_t = a + bIMVY_t + cREER + dOTR_t + eDUM + vt$$

Determinants of Import Duty as % of GDP

(IDY is the Dependent Variable)

| Variables | Coefficient | Standard Error | t-Statistics |
|--------------------------|-------------|-----------------|--------------------|
| Constant | -1.2175 | 0.3192 | -3.8143*** |
| IMVY | 0.0751 | 0.0083 | 9.0096*** |
| REER | 0.0029 | 0.0018 | 1.6399 |
| OTR | 0.1469 | 0.0108 | 13.6017*** |
| DUM | 0.2286 | 0.0829 | 2.7579*** |
| AR(1) ⁶⁺ | 0.8140 | 0.0739 | 11.0076*** |
| Adj-R ² =.964 | DW = 2.166 | F-stat =155.978 | SE of Regr.=0.0729 |

*** Significant at 1 percent level

+ Base figure indicates the lag and superscript denotes the number of iterations in achieving convergence.

Where, IDY = import duty as a percentage of GDP,

IMVY = import as a percentage of GDP,

REER = real effective exchange rate,

OTR = un-weighted overall average tariff rate,

DUM = liberalization dummy.

The Cochrane-Orcutt method as mentioned above was used for the correction for errors. The estimated equation is of good fit on level. In other words, all determinants of import duty as a percentage of GDP are highly significant with expected signs in the regression. The adjusted-R² indicates that most of the variations of the import duty as a percentage of GDP at level, the dependent variable, is highly explained by the estimated equation. The DW-test has fully ensured the rule of thumb approach whereas F-statistics shows very high level of significance of the overall model.

² Because of the significant increase in the workers' remittance income, the Nepal Rastra Bank in its half-yearly review report on Monetary Policy (FY 2005/06) has suggested that gross disposable income (GDI) would better represent the scale variable for any economic analysis than the GDP itself, which may help choosing better option for future study. Conceptually, GNP (gross national product) = GDP + YF (net factor income from abroad). Thus, GDI = GNP + TRF (net transfer from abroad).

The coefficient of the import as a percentage of GDP is positive and significant at 1 percent level indicating that one percent change in the import/GDP ratio leads to about 0.10 percent change in the import duty. Looking at the increasing trend of the export trade as well over the time which has had high import content also implies that an increase in the volume and value of imports as a result of trade liberalization despite tariff reduction helped increase the export trade. The fact that import/GDP ratio increased after the trade liberalization from 1990s onwards whereas the average collected tariff rate declined in the same period indicating that the increase in import/GDP ratio may not be sufficient enough to offset the loss of revenue due mainly to declining in trade taxes in the short run. This could however imply that a combination of lower tariffs and the depreciation of the local currency with US\$ term may help increase import due to high import content on export as well with a positive effect on trade revenue. The low level of import/GDP ratio though increasing over the post-liberalization period indicates that it has not captured the informal trade with India. Also the minor implication on the import duty from trade might have reflected due to the sizable role of nominal duty and/or exemption for the import of raw materials and capital goods as well as the aid import.

The coefficient of the real effective exchange rate² in Nepalese rupee term, which is a trade weighted average (base =1996, mainly because of normal year), is positive but not significantly different from zero. The positive but virtually inelastic coefficient with import duty/GDP ratio indicates that the real exchange rate is as expected because at the time of currency depreciation in real terms the value of imports in local currency terms rises. As mentioned earlier, the import has shown an increasing trend even at the time of the depreciation of the Nepalese currency due to either essential nature of import and /or with high import content of the major exportables. In the absence of a significant evidence of exchange rate, it is difficult to implicate the quantum effect of the share of the commodities subject to tariff in total imports. However, the higher import/GDP ratio appears to compensate for the reduction in trade revenue arising from the trade liberalization. The result also means that the import duty to GDP ratio increased marginally through the increase in the volume of import at the time of Nepalese rupees depreciation.

The coefficient of the un-weighted average tariff rate is positive and highly significant. This indicates that one percent change in the average tariff rate may lead to about 0.20 percent change in the import duty as a percentage of GDP. However, due to the complex nature of Nepalese import trade like exemptions, informal trade, highly inelastic essential import, it is difficult to make a conclusive remark on the magnitude of the impact of average tariff rate on import, and thereby, on the import duty as a percentage of GDP.

The coefficient of the liberalization dummy based on the acceptance of the Article VIII of the IMF (1994/95) as a standard anchor commonly used elsewhere is positive and significant amidst the doubt that Nepal had started the gradual trade liberalization since mid-1980s both on the tariff and non-tariff barriers leaving less room for the benefit of tariffication. However, the positive and significant coefficient implies that the share of commodities subject to tariff in total imports would have increased. Also the liberalization dummy results show that both the intercept and the slope of the import duty function shift upwards as a result of trade

² Since Nepal has a dual exchange rate system fixed with Indian currency and flexible with other major convertible currencies especially with US\$ and also looking the terms and conditions of the trade with India and its large share, it is not easy to observe the trade tariff relation in combination. Thus, further study on disaggregate level can provide a better picture.

liberalization. The result also supports the view that on average trade liberalization has been taken place in view to avoiding adverse revenue consequences.

3.5 Estimated Revenue Loss

The standard macroeconomic theory suggests that the fiscal variables should be smoothed through the business cycle in order to lessen the cost of macroeconomic fluctuations. The role can be enhanced through the work of built-in stabilizers, discretionary measures, expenditure measures, or through a combination of these (Suliman, 2005). It is but natural that the possible revenue effect in the WTO regime may lead some loss in revenue even though the applied tariff rates for both agriculture and industrial goods which was about 11 percent quite smaller than the binding rate at the time of the submission to the Working Party. As such, the average bound tariff rates for agriculture and industrial products are 42 percent and 24 percent respectively.

The elimination of other duties and charges over a period ranging from 2 to 10 years, which is high on industrial products (2.5 to 14.5%) compared to agriculture products (2.5 to 11.5%) will have to compensate through expansion of import and export trade as well. The binding rates are to be rationalized on different items basically in the years 2006, 2008 and 2013. All together 137 items are to be reduced to the zero tariff broadly by 2008. The highest binding tariff would be 60 percent for Car, Jeep, Van and also on capacity based vehicles whereas such rate would be 40 percent for three wheelers autorikshaw.

3.5.1 Sauve's (2005) Estimation

He has estimated trade effects for all the Nepalese imported products using the base year 2002 on the database of UNCTAD, WTO and World Bank making the assumptions that applied rates before accession to WTO would continue to be applied and other duties and charges would be completely eliminated. As such, the potential revenue loss of about US\$ 55 million / Rs.4322 million could be expected which is about 25 percent of the total custom duty. Similarly, the study has also estimated the overall trade creation in the conditions of eliminating other duties and charges and the application of final offered rates equivalent to US\$ 89 million with the effects in those sectors where revenue losses would be highest.

3.5.2 Custom Department's Estimation:

The preliminary estimation of the Custom Department of Ministry of Finance based on the binding rates of various imported products on commodity-wise basis rather than on HS group basis shows that with the reduction of tariff rates in accordance with WTO commitments, the import duty will be reduced by about Rs. 956 million. And also agriculture development charges and local development charges of Rs. 556.4 million and Rs. 1846.1 million respectively will be lost annually. As a result of these reductions, the VAT will also be adversely affected by Rs. 436.6 million resulting in a total revenue loss impact of Rs 3795.3 million.

3.5.2 Current Study's Estimation

This study attempts to quantify the net impact and also to distill the policy prescription for both the export and import trade based on the elasticity based on harmonized system trade code. But in the absence of database on import duty and export charges, the sensitive part of

the import and export elasticity on the standard code could not be calculated. It is therefore, not only with the WTO context but also for the participation with other emerging trading blocks such as SAFTA, BIMST-EC FTA, the concerned authority should immediately develop the system of recording import duty and export charges in view to making them compatible with international standard harmonized system of trade code.

The Custom Department has initiated efforts in recording commodity-wise HS category with the applied tariff rates of the import trade. Also the Department has not categorically scrutinized the phasing out schedule of the reduction and complete elimination of the ODCs on HS group basis. The Department has used an ad-hoc process on commodity-wise basis in adjusting the ODCs. Similarly, there is no workout for developing the periodic bound final rates on the HS group basis in compliance with WTO commitments.

Looking at the estimations of the revenue implications as presented below the overall effective applied tariff rates (EATRs) for the FY 2004/05 is 13.19 percent which is lesser than the MFN applied rates (15.2) of 2002. Also the combined EATRs and ODCs rate (17.5 %) is also lower than the earlier rate (19.3 %). Estimates based on the available data of the Custom Department and also the UNCTAD and World Bank wherever necessary provide the potential impact from Nepal's commitments. With the assumption that (i) effective applied tariff rates of the base year (FY 2004/05) would continue to be applied and (ii) the other duties and charges would completely be eliminated, the expected revenue loss will be Rs. 5588 million.

Estimation of Trade Effects on Nepal's Revenue Mobilization under WTO Commitments
(Base Year 2004/05)

| S.N. | HS Description | Effective Applied Tariff Rates (EATRs) % | Other Duties & Charges (ODCs) % | EATRs & ODCs % | Total Import Value Rs. In Mn | Ratio of HS Group Share in Import | Revenue by EATRs & ODCs Rs. In Mn | Revenue by EATRs Excl. ODCs Rs. In Mn | Revenue Changes Rs. In Mn | Bound Final Rate % |
|------|----------------------------|--|---------------------------------|----------------|------------------------------|-----------------------------------|-----------------------------------|---------------------------------------|---------------------------|--------------------|
| 1 | Live animals and products | 6.57 | 5.40 | 11.97 | 1207 | 0.0093 | 144 | 79 | -65.2 | 48.00 |
| 2 | Vegetable products | 5.70 | 10.50 | 16.20 | 6143 | 0.0471 | 995 | 350 | -645.0 | 47.2 |
| 3 | Fats and oil | 7.98 | 4.50 | 12.48 | 6699 | 0.0514 | 836 | 535 | -301.5 | 47.00 |
| 4 | Prepared food etc., | 13.72 | 5.00 | 18.72 | 5871 | 0.0450 | 1099 | 806 | -293.6 | 70.20 |
| 5 | Mineral products | 11.39 | 3.90 | 15.29 | 33874 | 0.2597 | 5179 | 3858 | -1321.1 | 19.60 |
| 6 | Chemical products | 8.90 | 3.60 | 12.50 | 11414 | 0.0875 | 1427 | 1016 | -410.9 | 21.50 |
| 7 | Plastic and rubber | 20.46 | 4.40 | 24.86 | 5554 | 0.0426 | 1381 | 1136 | -244.4 | 22.70 |
| 8 | Hides and skins | 21.83 | 4.50 | 26.33 | 214 | 0.0016 | 56 | 47 | -9.6 | 30.00 |
| 9 | Wood and articles | 11.52 | 4.30 | 15.82 | 222 | 0.0017 | 35 | 26 | -9.5 | 26.30 |
| 10 | Pulp, paper, etc. | 15.07 | 3.80 | 18.87 | 2364 | 0.0181 | 446 | 356 | -89.8 | 19.50 |
| 11 | Textile and articles | 7.82 | 3.20 | 11.02 | 11659 | 0.0894 | 1285 | 912 | -373.1 | 23.60 |
| 12 | Footwear, headgear | 30.45 | 4.50 | 34.95 | 976 | 0.0075 | 341 | 297 | -43.9 | 36.20 |
| 13 | Articles of stone | 17.89 | 4.40 | 22.29 | 1349 | 0.0103 | 301 | 241 | -59.4 | 29.50 |
| 14 | Precious stones | 8.99 | 2.50 | 11.49 | 422 | 0.0032 | 48 | 38 | -10.6 | 20.00 |
| 15 | Base metals and products | 14.99 | 3.40 | 18.39 | 16507 | 0.1266 | 3036 | 2474 | -561.2 | 23.40 |
| 16 | Machinery | 9.73 | 3.60 | 13.33 | 14892 | 0.1142 | 1985 | 1449 | -536.1 | 13.10 |
| 17 | Transport equipment | 36.67 | 6.60 | 43.27 | 7588 | 0.0582 | 3283 | 2783 | -500.8 | 38.40 |
| 18 | Precision equipments | 7.99 | 3.50 | 11.49 | 1870 | 0.0143 | 215 | 149 | -65.5 | 14.20 |
| 19 | Arms and ammunition | 80.00 | 0.00 | 80.00 | 581 | 0.0045 | 465 | 465 | 0.0 | 0.00 |
| 20 | Miscellaneous manufactures | 18.57 | 4.40 | 22.97 | 1015 | 0.0078 | 233 | 188 | -44.7 | 26.30 |
| 21 | Works of art,etc. | 25.00 | 4.50 | 29.50 | 9 | 0.0001 | 3 | 1 | -2.1 | 30.00 |
| | Weighted average | | | | | | | | | |
| | & Totals | 13.19 | 4.28 | 17.48 | 130430 | 1.0000 | 22794 | 17206 | -5588 | 26.48 |

Source: Import Trade and Effective applied rates are calculated from the Annual Commodity-wise Descriptions, Custom Department MOF,NG FY2004/05 and ODCs and bound final rates from UNCTAD and WTO website.

Note: Exemptions and preferential treatments are not included in this study that is why it may differ with the finding of the study which covers all such provisions and treatments.

The potential revenue loss is about one-fourth of the estimated revenue calculated on the basis of the total effective applied tariff rates including ODCs with their respective trade weights of the base year which is more or less consistent with the earlier estimates. The estimated import duty collection has however been slightly overestimated in comparison to the actual import duty collection which is normally underreported due to following reasons:

- The Custom Department database on HS basis has been initiated recently.
- The Custom Department database has not included the ODCs.
- Import tariff rates and import values are given in the Custom Department publications but because of the exemptions and special treatments that are not clearly mentioned in the same report may differ the import duty collection with that of the reported tariff rates and import value.
- There are lots of provisions for concessions on the basis of import quantity and values which are not reported in the published data set.
- The calculation of the effective applied tariff rates has been based on the import weights of commodities within the HS group and HS group with the total import trade. All together 1225 commodities are included in the HS trade code.
- Looking at the revenue collection of the import duty on quantity base / item-wise, it is on average 12 percent which shows a safe cushion for the uncovered import data since the overall effective applied tariff rate (13.19%) has exceeded the non-percentile tariff rate.
- The trade implication of the present study on revenue is more or less consistent with the trend of earlier ones. However, the estimated potential revenue loss as well as trade creation may depend on the level of import, effective applied tariff rates together with other underlying assumptions.

The revenue loss of Rs.5588 million can be compensated through (i) import trade creation at the reduced tariff rates in view to promote the export trade since Nepalese exportables have higher import content, (ii) the increment of 3 percent rate on VAT in FY 2005/06 and likely increase in the base and rate of VAT in the coming years and (iii) bringing informal trade with India and Tibet, the Autonomous Region of China, which is no doubt in a significant level, into formal channel. Moreover, the estimated revenue loss due to WTO commitments can be compensated through continuous reform on tax administration and eliminating tax leakages. Thus, there should be no panic with the trade liberalization under WTO regime, if Nepal can move and mar with the available options. However, prior to implement the available options, Nepal should make in order the house politically and economically to avoid various risk criteria for the foreign investors.

Obviously, the Custom Department of the Ministry of Finance has to develop the timely updating database in compatible with the HS trade code on applied tariff rates, ODCs, periodic and final bound rates, etc. The authority should not expect in completing all these types of research oriented jobs from the existing regular staffs. It is therefore, the Custom Department should be provided the TA as well as additional manpower for complete standardization of database and effective management in view to facilitate and monitor the WTO commitments and to estimate the revenue change and trade creation through tariff reductions. Similarly, looking at larger interest of being the member of WTO and also the participation in the emerging regional trading blocks like SAFTA, BIMST- EC FTA etc., the mechanism of a close coordination should be developed including all related agencies. Also

the Nepal Rastra Bank as a major source of international trade has to develop the database on HS trade code and export/import prices.

3.6 Policy Implications

Looking at the subjective and empirical analysis of the revenue implication from the reduction of tariff, the following implications may serve some sort of relief at least to minimize the possible revenue loss in the Nepalese case.

- A highly buoyant and tax elastic tax structure is an ideal situation in which tax revenue could increase without changing tax rates with minimum chance of tax evasion, if tax is based on income elastic. The discretionary impact for the whole sample period is the lowest (0.42) indicating that the revenue receipt from the trade volume and value in future would have a greater scope for expansion without the help of discretionary measures like increasing tariffs.
- Analysis of the results shows that the overall buoyancy and tax elasticity was not up to the standard compared to other developing countries. A comparison of the decomposed buoyancy shows a mixed trend on tax-to-income elasticity declining over the reviewed sub-periods with minor exception. However, a relatively high elasticity of tax-to-base in the case of VAT, excise tax and income tax for the whole period indicates that tax yield could have been higher from these sources. Also the elasticity of tax-to-base of custom duty remained relatively higher in the second sub-sample period (1995-05) which was the post-liberalization period of international trade where there has been a gradual rationalization of non-tariff as well as tariff further indicates that the reduction of tariff shows a positive response with the import duty due to increase in import. This implies that the tax reform with the increase of other taxes as mentioned above may help to compensate the possible revenue loss to be happened from the reduction on tariff.
- Low tax-to-base elasticity shows that there is further scope for reform on the tax exemption, evasion, relatively poor tax administration and enforcement of related laws. The tax buoyancy of tax-to-base remained above than unity for VAT, excise tax and income tax followed by a less than unity of the custom duty for the post-liberalization period. However, all the selected major taxes have shown greater than unity buoyancy in case of tax-to-income reflecting a better impact of overall income than the proxy bases. Nevertheless, the overall tax reform in Nepal needs to focus on administrative efficiency, accountability of tax officials, transparency, simplification of tax procedures, etc.
- The Nepalese economy as in other least developing economies may have a sizable under ground economy. The resultant yield of the voluntary income discloser scheme as introduced in the past could be taken as a better proxy for the existence of the underground economy, which no matter is deeply rooted. The recently introduced indicator by the Ministry of Finance of electricity consumption model in view to identifying the underground economy should be strengthened in uprooting such activities. Also the problem of non-invoicing/under-invoicing, smuggling and corruption should be checked in view to minimize the illegal income, and thereby, to explore the underground economy. Thus the estimation of buoyancy and elasticity without capturing the overall strength of the GDP may have a downward bias. Therefore, the revenue mobilization scheme should be developed in such a way that

the underground economy can be brought into the tax net. This implies that the tax rate reduction merely could not capture the evaded taxes without the support of administrative efficiency, simplification of tax procedures, recognition and social benefit to the taxpayers.

- The regression results show the expected sign of relationships with the selected explanatory variables with the import duty as a percentage of GDP. Similarly, the overall function with respect to the measurement indicators is highly significant with the exception of exchange rate. However, the magnitude of the coefficients of the selected variables shows very minimal effect on the dependent variable showing a complex nature of the import tariff in totality with exemptions, nominal tariff for the raw materials and capital goods as well as the sizable aid import, etc., making the import function less explanatory. Nonetheless, import duty in Nepal is affected based on the theoretical underpinnings.
- There is the potential revenue loss with the fulfillment of WTO commitments but at the meantime the trade creation due to low tariff as also the input for the export trade, likely increase in the base and rate of VAT, tapping informal trade into formal channel, etc., may help to compensate the likely revenue loss. For this, the development of database for monitoring and evaluation purpose and the efficient policy actions may help to correct the adverse impact.
- The policy makers in the context of depreciated exchange rate should try to pursue in promoting the export and growth of GDP to mitigate the possible negative impact on trade revenue through tariff reduction in the WTO regime. Similarly, there is ample scope for the better collection of custom revenue by bringing the informal trade into formal one, administrative reform and elimination of revenue leakages.

3.7 Conclusion

Looking at the overall results, firstly, one can safely say that the tax system itself is not sufficiently responsive to the changes in national income, as mentioned earlier. Secondly, the domestic taxes both direct and indirect are becoming more responsive than the custom duty in the recent past. In other words, the composition of total tax is oriented especially towards domestic indirect taxes from that of trade tax. Thirdly, the trend of both the tax responsiveness and the progressivity is very weak in Nepal as shown by the tax buoyancy and elasticity with respect to GDP and proxy bases. Fourthly, with the minor exception the differences between the estimated coefficients of the overall buoyancy and elasticity is positive and relatively high but it is difficult to confirm that the various discretionary tax changes would help to improve tax yield in Nepal since the values of the estimated constant and coefficients did not move in the same direction. Fifthly, the results are more or less consistent with the earlier ones and also clearly give signals of the ineffectiveness of the various reforms to enhance the responsiveness and productivity of the tax system in Nepal. Sixthly, the overall results help to make the conclusion that trade liberalization in the form of tariff reduction will not significantly reduce trade revenue if the suggested reforms will be implemented. Seventhly, the regression results though not with high magnitude but with the meaningful support for selected determinants, which will be useful for policy formulation and setting reform agenda in the case of trade tariff. Eighthly, the potential revenue loss due to tariff reduction in the WTO regime can be compensated through trade creation, increase in VAT base and rate, bringing informal trade into formal channel, etc. Finally, sound macroeconomic fundamentals, which could be witnessed as a fact in every sector during the first-half of 1990s, can significantly facilitate for the success of trade liberalization.

Chapter IV

Alternate Measures for Revenue Mobilization

Obviously, in WTO regime Nepal may have to bear some possible adverse effect in its custom revenue receipt due to compliance with the binding rates in its tariff structure. Also the possible privatization of its monopolistic type of basic domestic products and services as well as opening up of financial sector may create a structural shift which needs the competitive working environment for which various measures for enhancing competitiveness may incur extra cost for the government exchequer. However, with the conventional wisdom as well as a proven fact in some country cases, the possibility of decreasing functional impact on revenue can also offset by the increasing flow of trade due to liberalization impact. But to realize such increasing trade volume effect, Nepal needs to invigorate a lot in its overall performance, which may take longer time to develop such environment.

Being a member of WTO, Nepal has already started to rationalize the tariff rates towards the binding rates as per schedules. Thus, Nepal needs to be effortful in minimizing the possible revenue loss or even to achieve a revenue gain position with the help of increased trade volume effect. It is but natural that Nepal will have to import more even for the promotion of its export since the import content in its major export is very high. Now all out efforts of Nepal should focus on more appropriate and innovative alternate measures to convert the possible revenue loss into potential revenue gain through strong commitments in the policy formulation, institutional arrangements and capacity building, sound economic management, reform in related regulations and laws and their time bound implementation. The possible alternate measures related with revenue mobilization and expenditure reform in specific sectors are discussed below.

- The direct taxes are theoretically and practically found progressive in nature but the trend in the tax system in Nepal has reflected a high dependency on indirect taxes. Obviously, direct taxes are very elastic to the income level and holding of property and they are also easy to collect with very minimal chance of tax evasion. Also the discretionary efforts are very effective in the case of direct taxes but in the meantime, there is the need to increase the base of such tax, which for the individual is normally possible, among others, through the growth in the non-agriculture sector with a number of income brackets, higher rate for the higher income and marginal rate for low income with limited personal exemptions and deductions whereas the overall national income as well as the economic activities can be used as better base for the corporate sector with an uniform depreciation allowances across sectors. For this, the overall income growth should be targeted to enhance the tax base resulting in a growth oriented public-private partnership with a major focus on the private-led growth. Similarly, for the equitable distribution and for welfare gain, the government should give due attention for the distributional approach to minimize the haves and have-nots.
- There should be consistency in the tax rules. The efficient and proper use of revenue would certainly increase the faith of taxpayers hence the compliance. Similarly, there should be an effective coordination and understanding among various revenue related agencies. The tax effort has remained least effective in Nepal due to untrained and

unskilled manpower, inefficient organizational capability, and lack of transparency, responsibility and accountability. The tax effort, which is represented by the revenue administrative expenditure as a ratio of total expenditure, has remained as low as 0.9 percent on average for the last five years. With this backdrop, the medium to long-term revenue planning with rigorous simulation by expert team should be worked out in order to establish interrelationships of revenue with other macroeconomic variables in view to expand the revenue base.

- For the rationalization of import tariffs in the context of WTO requirements, the broad base consumption tax like VAT should be strengthened with the threshold providing sufficient leverage for the very small enterprises. Initially, VAT may be applied for the manufactures and import but over the time, it should be extended to distribution sector and agriculture inputs. It is a fact that collection of VAT is easier on imports than on domestically produced goods. In the case of below the threshold bracket the turnover/presumptive tax may be introduced to generate the feeling of tax incidence.
- The excise tax has been strengthened for specific items such as tobacco and alcohol, which can be imposed to timber and petroleum related products. Since the excise tax was removed in the past with an adjustment on custom duty on imported raw materials, but now the custom duty could not be imposed as a replacement tax for that purpose. In the present context of tariff reduction, the excise tax should be levied on domestic production and also to the similar imported goods.
- Similarly, the agriculture intermediary such as semi-processed / processed products such as milk, ghee, butter, etc., should also bring into tax net. Also the efficient expansion of commercial farming and encouraging private sector into agro-based industries may contribute a sizable amount in the revenue.
- In Nepal, the land and building are being treated as the factors of production but judging from the very nature of property holding, tax can be extended to discourage the holding habit or pay something at the cost of holding.
- In the absence of database, it is difficult to quantify the magnitude but it is an easy guess that the scope is sufficient in taping the resident non-Nepali, software services, medical and other likely services through IT, which are on increasing trend, for the tax purpose.
- The recently activated non-resident Nepali (NRN) issue can be amicably solved immediately in view to increase their investment for an industrial base. As a result, the overall activities can be increased so that the net effect will be in favor of national economy which directly/indirectly may have a multiplier effect for revenue generation.
- The custom revenue as elsewhere in Nepalese like context is no doubt is subject to a playing field for the tax evasion and administrative discretion which should be corrected through the reform measures. Strengthening of custom administration should be followed by standard custom valuation procedures. Presently, it is based on transaction prices, which needs to be converted into transaction value approach together with modernization of system and procedures. The under valuation is still a major problem in the collection of custom duty. Custom reforms include unique

taxpayers identification numbers, standard auditing, quality services to taxpayers, automation, skilled custom officers with administrative autonomy and pay incentives. Similarly, leakages on the overall revenue including custom revenue can be minimized through efficient mobilization of revenue patrolling groups and serious punishment in case of the violation of the rules as well as upgrading the communication networks, etc.

- Since the open border and unlimited convertibility of Indian currency, the informal trade with India is supposed to be quite high reflecting in a significant loss in the custom revenue. There is also similar problem to some extent with Tibet, the Autonomous Region of China. For this, tariff reduction alone may not be effective bringing them into formal channel without the support of the procedural simplifications, administrative reform, pay-incentives with accountability for custom officials as well as patrolling groups in view to help strengthen and cover the possible loss from tariff reduction. The recent experience shows that the tariff reduction should be followed by a relatively lower rate of VAT for the smaller import items from India. As such, the higher rate of VAT can be used for all the third countries import as well as big and luxurious items from India whereas lower rate of VAT for the smaller items would be effective in order to bring the informal trade into formal channel. This means that a two-tier VAT system can be useful for minimizing the informal trade.
- There will be minimum efforts needed for administrative controls, if the tax payments can be cultured on voluntary approach. For this, the government should have to develop some sort of recognition/compensation/social benefit, etc., approach as an incentive to pay the real income base tax. The existing commercial important person (CIP) like approach should be expanded to normal taxpayers also.
- The non-tax revenue has been increased over the time but because of the inefficient and insufficient administrative mechanism, it could not be effective as expected. Due to equal treatment compliance of the WTO, the scope of the non-tax revenue depends on the quality of service delivery. A common consensus among the stakeholders would be preferred for the evaluation of the overall cost, service mechanism, and the pricing since it is the tax/charge for providing services. Thus, the efficient service delivery may help to expand the base for non-tax, for example, postal service, drinking water, trekking and mountaineering fees, etc.
- The increased pressure with the practice of democracy has become intense from the rural communities for their greater participation in the decision-making process as well as better access in the public resources. Undoubtedly, such pressure helps positively in Nepalese like context, which is also the theme of the fiscal devolution and PRSP with reference to the broad base economic growth, social sector development and social inclusion. It is equally important looking at the decentralization commitments of the government and also capacity building of the local government in mobilizing resources and for the efficient use of available resources in need of local priority and local aspiration on cost effective basis.
- A very few public enterprises are in a position to pay dividend to the government though such dividend in comparison to the capital investment is very minimal (about 2%) and also the interest received from them on the government loan is also disheartening. Looking at the loan and investment of the government to these

enterprises and the return on them as well as the service delivery, the time is too delayed for the government either to stick strongly for the implementation of the performance criteria without compromise or to move on the privatization effectively to ensure the return on the investment and loan and/or to stop the financial burden at the cost of their inefficiency.

- The utilization of public land through commercial farming and/or leasing, reform of postal services by introducing new instruments and services utilizing its large network, improvement on the forest products as an industry through administrative efficiency and incentive for the private sector may help to enlarge the medium and long-term positive impact on revenue.
- Looking at the more feasible topographical structure and also a touristic destination, Nepal should have to develop the useless and odd land for golf centers, which may have a significant positive effect for the tourism sector. For the attraction of foreign investors for this purpose, the rules and regulation regarding the leasing, among others, of the land should be formulated both in the joint venture and /or in a single ownership, which can be the better option for the attraction of quality tourist in view to increase income from tourism.
- The existing Commerce Policy (1992) is to revise as per the need of present context. Nepal has already become the member of WTO and also attached with the regional trading blocks like SAFTA, BIMST-EC FTA. The commerce sector in this context should not only be more liberal, competitive and market oriented but also to improve the quality control of the Nepalese products to compete in the international market which is most with the compulsory certification like ISO 9000 even to enter in the developed markets. The best opportunity from the WTO membership is to expand the export base with a comparative advantage. For this, the establishment of export processing zone (EPZ) both in the public and private sector could contribute a lot which needs to develop suitable laws and regulations at first. For the export promotion, Nepal needs to improve its competitiveness through skill development, technological improvement and foreign investment together with symmetric information making available for potential exporters about the market opportunity and financing for export. The establishment/expansion of export promotion organizations as focal points basically facilitate exporters through trade intelligence, market research, training, investment promotion and know how on shipping, transport, packaging, etc.
- The FDI is the best form of foreign investment. It is believed that the FDI can contribute more favorably to capital importing country due mainly to the fact that profit payments can be made only when the investment earns a positive return. For the effective attraction of FDI, Nepal needs further reforms on FDI and industrial policy opening up of almost all sectors and making them more investment-friendly and flexible enough. As such, Nepal can attract significant foreign investment in areas of more comparative advantage like hydropower, tourism and services sector. However, there is urgent need to develop the mechanism to ensure cordial and transparent relationships between the trade unionists and entrepreneurs.
- Nepal has perhaps the lowest productivity of the factors of production, which has automatically an adverse impact on the overall macroeconomic situation. Thus to

increase the economic efficiency, the productivity of all the factors in terms of value addition, per unit of cost, and thereby, the capital output ratio should be rationalized. Similarly, the productivity of revenue mobilization with automation and without automation and officer to non-officer ratio can be used as comparative indicators in view to making revenue mobilization cost effective and more efficient.

- The time has come for thinking seriously in making use of the economic diplomacy with the necessary reform on domestic rules, regulations and policies in line with foreign investment -friendly to attract to mega projects on more feasible areas for the broad base sustainable economic growth. Similarly, the economic diplomacy should also be tied-up with performance criteria of mobilizing foreign assistance, marketing for exports, human resource development as well as for counseling the debt-relief appeal.
- The information communication technology (ICT) should be given top priority as knowledge based industry for its direct benefit as well as in view to flourish the concept in developing Nepal as an international financial center, which has been found highly feasible with the geographical proximity and the timing base for the emerging markets. The feasibility study has already been done and it seems more rationale in the context of the accession of Nepal to WTO and its commitments in opening up of the financial services by 2010.
- If Nepal can be developed as transit point between India and China, it may help explore the possibility of integrating more with the emerging economies and developing trade link. However, prior to materialize this possibility, Nepal needs to develop alternate highways with heavy transportation capacity at the standard of international highways connecting to Kathmandu valley with the south and north boarder. A massive investment no doubt is necessary for this work though this may be helpful for Nepal's all round development in the future.
- Looking at the strength of the economic growth and revenue, it is necessary to rationalize the security expenses as a part of expenditure reform. For this, the way-out should be concentrated on limiting the medium and long-term liability-creating obligation so as to ensure the productive patterns of expenditure.
- Since an active civil society may help to improve public services, Nepal needs to create such civil society-friendly environment to help enhance the self-disciplinary mechanism in view to ensure more transparency and efficiency in mobilizing revenue and utilizing them more productively as well as for checking corruption.
- Obviously, focus should be given on product innovation, quality control, cost efficiency and quality customer services to gain from the potential capacity and competitiveness. There should be a continuous comprehensive reform on the domestic tax system, sound macroeconomic policies including an appropriate exchange rate policy together with taping informal trade into formal channel through procedural simplifications and administrative reform to help avoid the possible adverse revenue consequences of WTO regime.

Chapter V

Policy Action Matrix

| S. No | Constraints | Policy Recommendation | Action/Activities | Indicators of Achievement | Responsible Agency | Time Frame |
|-------|--------------------------------------|---|---|---|--------------------|------------|
| 1. | Un-updated Trade Policy | Regular updating of Trade Policy | <ul style="list-style-type: none"> • Revision of trade policy • Formation of Trade Expert Group (TEG) • Develop Export Import Price | <ul style="list-style-type: none"> • Trade volume and value • Product Diversification • Country Diversification • Trade Elasticity • Trade Balance | MOICS/MOF/NRB/TPC | Regular |
| 2. | Long-term Revenue Planning | Revenue Planning | <ul style="list-style-type: none"> • Widening Tax Rate/ Base • Use Excise Tax as source of revenue • Explore non-tax revenue sources | <ul style="list-style-type: none"> • Number of Taxpayers • Tax and Non-Tax revenue | MOF | Immediate |
| 3. | Improper Classification of Trade Tax | Classification of Trade Tax into SITC group basis | <ul style="list-style-type: none"> • Classification in accordance with SITC group | <ul style="list-style-type: none"> • Trade Tax elasticity and sensitivity of respective classification | MOICS/MOF/NRB | Immediate |
| 4. | Act and Rules | Necessary amendment on Custom Act and Rules | <ul style="list-style-type: none"> • Develop voluntary compliance with fast-track clearance | <ul style="list-style-type: none"> • Custom duty • Ratio of quantum to voluntary compliance • Number of days of custom clearance | MOF/DOC | Immediate |
| 5. | Institutional | Provision of necessary facilities | <ul style="list-style-type: none"> • Improve necessary facilities and instruments at the custom points | <ul style="list-style-type: none"> • Number of days of custom clearance • Number of cases of grievance and complaints | MOF/DOC | Immediate |

| | | | | | | |
|-----|--------------------------------------|---|--|--|--|--------------------------|
| 6. | Informal Trade | <ul style="list-style-type: none"> • Tariff Reduction • Administrative Reform • Pay Incentives to Officials and Patrolling Group | <ul style="list-style-type: none"> • Initiate Administrative Reforms and Incentives | <ul style="list-style-type: none"> • Ratio of Informal to Formal Trade • Trend of Custom Revenue | MOF/MOH A/DOC/Local Administration | Immediate |
| 7. | Insufficient Organizational Capacity | <ul style="list-style-type: none"> • Organization and Method (O&M) Survey • Revisit of Partnership Policy | <ul style="list-style-type: none"> • Reinvent MOICS • Collaboration with Private Sector | <ul style="list-style-type: none"> • Number of Ministry/Departments involved • Proportion of Sanitary and Phyto-Sanitary (SPS), TRIPS, TBT | MOF/MOICS MOAC/F NCCI/CNI/ COC | Immediate to Medium Term |
| 8. | ICT Policy | Timely Revision of ICT Policy and Cyber Laws | <ul style="list-style-type: none"> • Expansion and publicity of IT Park • Software Development Centers | <ul style="list-style-type: none"> • Number of Parks • Number of Centers • Number of Private and Public Centers | MOST/RO NAST/Univ ersities/FNC CI/CNI/CO C/CAN | Immediate to Medium Term |
| 9. | Patent Rights | Claims on indigenous Nepal Products. (Like papers, tea, yarshagumbu, handicrafts, etc.) | <ul style="list-style-type: none"> • Initiate Claims • Study for identification and exploration of native products | <ul style="list-style-type: none"> • Items and commodity claims • Study conducted • Product identified | MOICS/MO AC/RONAS T and Universities | Immediate to Medium Term |
| 10. | Economic Diplomacy | Strengthening Economic Diplomacy | <ul style="list-style-type: none"> • Explore trade, investment, tourism, foreign employment, foreign aid and debt relief initiation | <ul style="list-style-type: none"> • Trade Fairs • Volume and Value effects | MOF/MOF A and Sectoral Ministries | Immediate to Medium Term |

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Appendix I
Base Buoyancy of Major Taxes in Nepal (1975-2005)

| | Intercept | Coefficient | AR+ | R² | F-Stat | DW | Discretionary Impact |
|---------------------------|---------------------|--------------------|-----------------|----------------------|---------------|-----------|-----------------------------|
| Customs Duty | | | | | | | |
| Inaccd C Inimp | -0.60 (-1.66)* | 0.85*** (24.23) | 1 ⁷ | 0.99 | 2135.48 | 1.88 | 0.42 |
| Consumption Tax | | | | | | | |
| Inacvt C Inpvc | -5.97*** (-6.57) | 1.21*** (15.71) | 1 ⁷ | 0.99 | 2253.12 | 1.67 | 0.59 |
| Inacet C Inpvc | -4.35*** (-6.61) | 0.99*** (17.99) | 1 ⁷ | 0.99 | 2513.60 | 1.96 | 0.50 |
| Income Tax | | | | | | | |
| Inacit C In nagdp (-1) | -5.01*** (-3.34) | 1.10*** (8.41) | 1 ²⁶ | 0.98 | 678.37 | 1.34 | 0.63 |

Base Elasticity of Major Taxes in Nepal (1975-2005)

| | Intercept | Coefficient | AR+ | R² | F-Stat | DW |
|--------------------------|-------------------|--------------------|-----------------|----------------------|---------------|-----------|
| Customs Duty | | | | | | |
| Inadcd C Imimp | 2.46*** (3.92) | 0.43*** (7.13) | 1 ⁷ | 0.97 | 506.09 | 1.64 |
| Consumption Tax | | | | | | |
| Inadvt C Inpvc | -0.42 (0.26) | 0.62*** (4.67) | 1 ¹¹ | 0.99 | 920.57 | 1.10 |
| Inadet C Inpvc | -0.03 (-0.11) | 0.49*** (21.16) | 1 ⁵ | 0.99 | 1158.63 | 2.10 |
| Income Tax | | | | | | |
| Inadit C Innagdp (-1) | 0.22 (0.23) | 0.47*** (5.53) | 1 ¹⁴ | 0.95 | 257.00 | 1.54 |

*** Significant at 1% level

** Significant at 5% level

* Significant at 10% level

+Base Figure indicates the lag and the superscript denotes the convergence achieved after that level of iterations.

Where accd = actual custom duty; acvt = actual VAT; acet = actual excise tax; acit = actual income tax; adcd = adjusted (cleaned) custom duty; advt = adjusted VAT; adet = adjusted excise tax; adit = adjusted income tax.

Appendix II
Base Buoyancy of Major Taxes in Nepal (1975-1994)

| | Intercept | Coefficient | AR+ | R² | F-Stat | DW | Discretionary Impact |
|------------------------|---------------------|------------------------|----------------|----------------------|---------------|-----------|-----------------------------|
| Customs Duty | | | | | | | |
| Inaccd C InImp | -0.11 (-0.24) | 0.80** * (17.06) | 1 ⁵ | 0.98 | 490.74 | 1.91 | 0.49 |
| Consumption Tax | | | | | | | |
| Inacvt C Inpvc | -4.79*** (-3.23) | 1.10** * (8.32) | 1 ⁷ | 0.98 | 538.10 | 1.73 | 0.27 |
| Inacet C In pvc | -2.85 (1.50) | 0.86** ** (5.25) | 2 ⁸ | 0.99 | 773.31 | 1.12 | 0.30 |
| Income Tax | | | | | | | |
| Inacit C Innagdp(-1) | -3.50*** (-4.21) | 0.93** * (11.41) | 1 ⁶ | 0.94 | 136.58 | 1.41 | 0.58 |

Base Buoyancy of Major Taxes in Nepal (1995-2005)

| Customs Duty | Intercept | Coefficient | AR+ | R² | F-Stat | DW | Discretionary Impact |
|------------------------|----------------------|--------------------|-----------------|----------------------|---------------|-----------|-----------------------------|
| Inaccd C InImp | 5.65** (2.30) | 0.37* (1.80) | 1 ¹⁴ | 0.96 | 108.53 | 2.18 | -0.27 |
| Consumption Tax | | | | | | | |
| Inacvt C Inpvc | -6.84** (-2.89) | 1.28*** (6.81) | 1 ⁶ | 0.93 | 62.20 | 1.33 | 1.44 |
| Inacet C Inpvc | -10.73*** (-5.44) | 1.50*** (9.58) | 1 ⁵ | 0.96 | 107.49 | 1.96 | 1.23 |
| Income Tax | | | | | | | |
| Inacit C Innagdp (-1) | -5.89 (-1.20) | 1.19*** (3.05) | 1 ¹¹ | 0.98 | 192.59 | 1.77 | 1.10 |

*** Significant at 1% level

** Significant at 5% level

* Significant at 10% level

+Base Figure indicates the lag and the superscript denotes the convergence achieved after that level of iterations.

Appendix III
Base Elasticity of Major Taxes in Nepal (1975-1994)

| | Intercept | Coefficient | AR+ | R² | F-Stat | DW |
|------------------------|---------------------|--------------------|----------------|----------------------|---------------|-----------|
| Customs Duty | | | | | | |
| lnadcd C InImp | 3.51*** (6.55) | 0.31*** (5.39) | 1 ⁵ | 0.88 | 66.36 | 1.55 |
| Consumption Tax | | | | | | |
| lnadv C Inpvc | -2.67* (-1.77) | 0.83*** (6.10) | 1 ⁸ | 0.98 | 400.20 | 1.22 |
| lnadet C Inpvc | -0.67*** (-3.68) | 0.56*** (32.68) | 1 ⁴ | 0.99 | 1014.49 | 1.87 |
| Income Tax | | | | | | |
| lnadit C Innagdp(-1) | 1.30*** (2.68) | 0.35*** (7.24) | 1 ⁵ | 0.81 | 38.15 | 1.53 |

Base Elasticity of Major Taxes in Nepal (1995-2005)

| | Intercept | Coefficient | AR+ | R² | F-Stat | DW |
|------------------------|-------------------|--------------------|----------------|----------------------|---------------|-----------|
| Costoms Duty | | | | | | |
| lnadcd C InImp | 0.01 (0.01) | 0.64*** (5.98) | 1 ⁹ | 0.89 | 41.32 | 1.34 |
| Consumption Tax | | | | | | |
| lnadv C Inpvc | 9.48*** (4.42) | -0.16 (-0.96) | 1 ⁵ | 0.12 | 1.66 | 0.77 |
| lnadet C Inpvc | 2.67*** (4.69) | 0.27*** (6.08) | 1 ⁴ | 0.65 | 10.29 | 2.31 |
| Income Tax | | | | | | |
| lnadit C Innagdp(-1) | 4.001 (1.02) | 0.18 (0.57) | 1 ⁷ | 0.69 | 12.03 | 2.19 |

*** Significant at 1% level

** Significant at 5% level

* Significant at 10% level

+Base Figure indicates the lag and superscript denotes the convergence achieved after that level of iterations.

Appendix IV
Buoyancy of Major Taxes wrt GDP in Nepal (1975-2005)

| | Intercept | Coefficient | AR+ | R² | F-Stat | DW | Discretionary Impact |
|------------------------|----------------------|--------------------|----------------|----------------------|---------------|-----------|-----------------------------|
| Customs Duty | | | | | | | |
| Inaccd C Ingdp | -4.43*** (-12.61) | 1.07*** (35.74) | 1 ⁵ | 0.99 | 2815.57 | 1.64 | 0.55 |
| Consumption Tax | | | | | | | |
| Inacvt C Ingdp | -5.99*** (-6.75) | 1.19*** (16.07) | 1 ⁸ | 0.99 | 2002.48 | 1.69 | 0.61 |
| Inacet C Ingdp | -4.49*** (-9.58) | 0.98*** (25.24) | 1 ⁶ | 0.98 | 1085.30 | 0.89 | 0.50 |
| Income Tax | | | | | | | |
| Inacit C Ingdp | -8.48*** (-7.87) | 1.33*** (14.70) | 1 ⁷ | 0.98 | 863.60 | 1.02 | 0.76 |
| Total Revenue | | | | | | | |
| Inactr C Ingdp | -3.91*** (-15.80) | 1.14*** (53.97) | 1 ⁶ | 0.99 | 5155.77 | 1.77 | 0.55 |

Elasticity of Major Taxes wrt GDP in Nepal (1975-2005)

| | Intercept | Coefficient | AR+ | R² | F-Stat | DW |
|------------------------|------------------|--------------------|----------------|----------------------|---------------|-----------|
| Customs Duty | | | | | | |
| Inadcd C Ingdp | 0.72 (0.96) | 0.52*** (8.25) | 1 ⁶ | 0.97 | 508.78 | 1.44 |
| Consumption Tax | | | | | | |
| Inadvdt C Ingdp | -0.02 (-0.01) | 0.58*** (3.80) | 1 ⁷ | 0.98 | 884.96 | 1.08 |
| Inadet C Ingdp | -0.03 (-0.11) | 0.48*** (19.72) | 1 ⁵ | 0.98 | 914.19 | 2.00 |
| Income Tax | | | | | | |
| Inadit C Ingdp | -1.25 (-1.40) | 0.57*** (7.54) | 1 ⁸ | 0.95 | 293.71 | 1.34 |
| Total Revenue | | | | | | |
| Inadtr C Ingdp | 1.19** (2.53) | 0.59*** (15.01) | 1 ⁷ | 0.99 | 1768.85 | 1.55 |

*** Significant at 1% level

** Significant at 5% level

* Significant at 10% level

+Base Figure indicates the lag and superscript denotes the convergence achieved after that level of iterations.

Where actr = actual total revenue; adtr = adjusted (cleaned) total revenue.

Appendix V
Buoyancy of Major Taxes w.r.t. GDP in Nepal (1975-1994)

| | Intercept | Coefficient | AR+ | R ² | F-Stat | DW | Discretionary Impact |
|------------------------|---------------------|--------------------|-----------------|----------------|---------|------|----------------------|
| Customs Duty | | | | | | | |
| Inaccd C Ingdp | -3.77*** (-6.14) | 1.01*** (18.08) | 1 ⁵ | 0.98 | 591.92 | 1.68 | 0.62 |
| Consumption Tax | | | | | | | |
| Inacvt C Ingdp | -4.39*** (-5.24) | 1.04*** (14.04) | 2 ⁶ | 0.98 | 365.07 | 0.95 | 0.27 |
| Inacet C Ingdp | -2.82 (-1.63) | 0.84*** (6.02) | 5 ¹⁰ | 0.98 | 435.83 | 0.90 | 0.29 |
| Income Tax | | | | | | | |
| Inacit C Ingdp | -6.14*** (-6.44) | 1.10*** (12.72) | 1 ⁵ | 0.95 | 175.35 | 1.32 | 0.69 |
| Total Revenue | | | | | | | |
| Inactr C Ingdp | -3.25*** (-7.66) | 1.07*** (27.86) | 1 ⁶ | 0.99 | 1217.07 | 2.08 | 0.46 |

Buoyancy of Major Taxes w.r.t. GDP in Nepal (1995-2005)

| | Intercept | Coefficient | AR+ | R ² | F-Stat | DW | Discretionary Impact |
|--------------------------|---------------------|--------------------|----------------|----------------|--------|------|----------------------|
| Customs Duty | | | | | | | |
| Inaccd C Ingdp | -3.80*** (-5.66) | 1.02*** (19.57) | 1 ⁴ | 0.97 | 173.34 | 0.92 | 0.44 |
| Consumption Tax | | | | | | | |
| Inacvt C Ingdp | -8.09** (-2.30) | 1.35*** (4.93) | 1 ⁷ | 0.93 | 70.41 | 1.40 | 1.51 |
| Inacet C Ingdp | - | 1.55*** | 1 ⁵ | 0.95 | 101.69 | 1.82 | 1.28 |
| Inacit C InNagdp (-1) | 11.73*** (-4.53) | 1.55*** (7.70) | | | | | |
| Income Tax | | | | | | | |
| Lnacit C Ingdp | -6.93 (-1.27) | 1.23** (2.94) | 1 ⁷ | 0.97 | 174.23 | 1.80 | 1.10 |
| Total Revenue | | | | | | | |
| Inactr C Ingdp | -4.64*** (-5.32) | 1.20*** (17.55) | 1 ⁵ | 0.98 | 306.61 | 0.89 | 0.96 |

* Significant at 1% level

** Significant at 5% level

*** Significant at 10% level

+Base Figure indicates the lag and superscript denotes the convergence achieved after that iterations.

Appendix VI
Elasticity of Major Taxes wrt GDP in Nepal (1975-1994)

| | Intercept | Coefficient | AR+ | R² | F-Stat | DW |
|------------------------|---------------------|--------------------|-----------------|----------------------|---------------|-----------|
| Customs Duty | | | | | | |
| lnadcd C Ingdp | 2.07** (2.42) | 0.39*** (5.09) | 1 ⁴ | 0.88 | 68.17 | 1.37 |
| Consumption Tax | | | | | | |
| lnadvt C Ingdp | -2.24** (-1.93) | 0.77*** (7.48) | 1 ¹⁰ | 0.97 | 328.09 | 1.23 |
| lnadet C Ingdp | -0.74*** (-3.02) | 0.55*** (24.39) | 1 ⁵ | 0.98 | 487.68 | 1.83 |
| Income Tax | | | | | | |
| lnadit C Ingdp | 0.27 (0.46) | 0.41*** (7.63) | 1 ⁵ | 0.83 | 44.34 | 1.48 |
| Total Revenue | | | | | | |
| lnadtr C Ingdp | 0.97** (2.39) | 0.61*** (16.45) | 1 ⁷ | 0.98 | 478.29 | 1.54 |

Elasticity of Major Taxes wrt GDP in Nepal (1995-2005)

| | Intercept | Coefficient | AR | R² | F-Stat | DW |
|------------------------|--------------------|--------------------|----------------|----------------------|---------------|-----------|
| Customs Duty | | | | | | |
| lnadcd C Ingdp | -0.06 (-0.15) | 0.58*** (17.72) | 1 ⁵ | 0.95 | 98.38 | 1.00 |
| Consumption Tax | | | | | | |
| lnadvt C Ingdp | 9.49*** (4.42) | -0.16 (-0.96) | 1 ⁵ | 0.11 | 1.64 | 0.78 |
| lnadet C Ingdp | 2.57*** (4.32) | 0.27*** (5.99) | 1 ⁴ | 0.65 | 10.19 | 2.28 |
| Income Tax | | | | | | |
| lnadit C Ingdp | 4.48 (0.92) | 0.13 (0.35) | 1 ⁷ | 0.68 | 11.72 | 2.26 |
| Total Revenue | | | | | | |
| lnadtr C Ingdp | 5.66*** (12.37) | 0.24*** (6.91) | 1 ³ | 0.86 | 30.89 | 2.01 |

*** Significant at 1% level

** Significant at 5% level

* Significant at 10% level

+Base Figure indicates the lag and superscript denotes the convergence achieved after that level of iterations.

Appendix VII
Selected Determinants of Import Duty

| FY | IDY | IMVY | REER | OTR | DUM |
|-----------|------------|-------------|-------------|------------|------------|
| 1974/75 | 1.798 | 10.953 | 156.800 | 16.419 | 0 |
| 1975/76 | 1.845 | 11.395 | 122.510 | 16.196 | 0 |
| 1976/77 | 1.956 | 11.620 | 118.230 | 16.833 | 0 |
| 1977/78 | 2.129 | 12.518 | 133.660 | 17.004 | 0 |
| 1978/79 | 2.579 | 12.987 | 135.480 | 19.861 | 0 |
| 1979/80 | 2.334 | 14.903 | 136.700 | 15.661 | 0 |
| 1980/81 | 2.732 | 16.216 | 135.660 | 16.847 | 0 |
| 1981/82 | 2.527 | 15.909 | 130.110 | 15.882 | 0 |
| 1982/83 | 2.180 | 18.702 | 138.950 | 11.657 | 0 |
| 1983/84 | 2.018 | 16.537 | 124.820 | 12.204 | 0 |
| 1984/85 | 2.270 | 17.421 | 111.880 | 13.033 | 0 |
| 1985/86 | 2.176 | 17.553 | 117.810 | 12.397 | 0 |
| 1986/87 | 2.334 | 17.836 | 120.820 | 13.086 | 0 |
| 1987/88 | 2.880 | 18.956 | 129.820 | 15.191 | 0 |
| 1988/89 | 2.595 | 18.949 | 124.040 | 13.693 | 0 |
| 1989/90 | 2.660 | 18.380 | 118.880 | 14.472 | 0 |
| 1990/91 | 2.553 | 20.001 | 110.160 | 12.765 | 0 |
| 1991/92 | 2.238 | 22.038 | 103.820 | 10.157 | 0 |
| 1992/93 | 2.301 | 23.710 | 102.460 | 9.703 | 0 |
| 1993/94 | 2.520 | 26.917 | 101.890 | 9.362 | 0 |
| 1994/95 | 3.184 | 30.328 | 103.860 | 10.498 | 1 |
| 1995/96 | 2.998 | 31.102 | 100.000 | 9.639 | 1 |
| 1996/97 | 3.020 | 34.705 | 102.310 | 8.702 | 1 |
| 1997/98 | 2.859 | 30.713 | 102.040 | 9.309 | 1 |
| 1998/99 | 2.770 | 26.521 | 104.630 | 10.443 | 1 |
| 1999/00 | 2.834 | 29.626 | 104.370 | 9.566 | 1 |
| 2000/01 | 3.060 | 29.358 | 99.490 | 10.424 | 1 |
| 2001/02 | 2.891 | 26.442 | 97.570 | 10.934 | 1 |
| 2002/03 | 3.058 | 28.420 | 100.470 | 10.760 | 1 |
| 2003/04 | 3.170 | 28.743 | 103.450 | 11.028 | 1 |
| 2004/05 | 2.969 | 25.819 | 104.660 | 11.499 | 1 |

Source: Self-Calculated

Where IDY= Import duty as Percentage of GDP

IMVY = Import as Percentage of GDP

REER = Real Effective Exchange Rate (base = 1995/96)

OTR = Unweighted Overall Average Tariff Rates

DUM = Liberalization Dummy