Development Research Group

THE IMPACT OF THE URUGUAY ROUND ON GROWTH AND STRUCTURE OF INDIAN ECONOMY

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DRG Studies Series

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Director
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1. Introduction

Much before the emergence of economics as a formal subject, it was well understood that the direction, composition and terms of international trade have direct and definite bearings on the development of countries. This awareness has generated large public interest in the issues associated with foreign trade. It was, therefore, expected that the proceedings and outcomes of the Eighth Round of multilateral trade negotiations (MTNs) under the aegis of the General Agreement on Tariffs and Trade (GATT), popularly known as the Uruguay Round, would capture global attention. However, the extent and spread of the discussions on the Uruguay Round surpassed that on any such issue in the recent past.

There are mainly three reasons behind the importance of the Uruguay Round. First, the Uruguay Round initiated the establishment of the first permanent multilateral trade negotiating body, the World Trade Organisation (WTO), as the successor of the GATT which continued to have a temporary status since its inception. Secondly, the number of countries participating in the Uruguay

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Round and the amount of trade flows accounted for by them was much more than any of the previous Rounds. In spite of the continuation of the Anglo-American dominance on the process of MTNs,[1] during the Uruguay Round a large number of developing countries participated in the negotiations and in many cases their influence on the course of the agreements was substantial. In this Round, the developing countries participated in the negotiations mostly on the basis of *quid pro quo* rather than asking for too many concessions from the industrialised countries. This had enhanced the importance of the developing countries as trade partners of the industrialised countries and in influencing the MTNs.[2] Thirdly, the Uruguay Round was the most ambitious, the most complex and the longest GATT Round where 14 multilateral and four plurilateral agreements were signed and 12 Ministerial Declarations were made. The Uruguay Round changed the status, scope, rules and arbitration procedures for the future MTNs under the aegis of the WTO.

Given the complexities associated with the Uruguay Round agreements and their vast scopes, it is likely that the participating countries who are in different stages of development, would be affected differentially by the agreements. Further, the impact of the Uruguay Round would also be diverse on different economic groups within the member nations. Therefore, different views on the impact of the Uruguay Round were expected. In India too, differences in perception about effects of the Uruguay Round on the domestic economy exist, though not all of them have sufficient empirical backing.

The present study aims at finding some quantitative measures to capture the possible implications of the Uruguay Round on the Indian economy. The purposes of this study are numerous. In the first place, it would help to clear up the confusion about the impact

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of the Uruguay Round. Moreover, the study could throw some light on the possible policy options which could be advantageous for the country to adopt in the changed international scenario following the establishment of the WTO. Besides, while exploring the possible impact of the Uruguay Round on the Indian economy, the study has tried to analytically link the external and domestic sectors more closely than most of the existing studies. This, in turn, helps to enhance policy relevance of the study for future discussions in the context of growing internationalisation of the Indian economy.

1.1   Scheme of Analysis

The present study has four sections. The introductory section explains the rationale of the study, the scheme of analysis, the historical background to the GATT in general and the Uruguay Round in particular and the major features of the individual agreements under the Uruguay Round.

Section 2 deals with the modelling exercise followed in this study. The model, the Michigan-type one, used in this study, its assumptions and working and the sectorisation used by the study have been discussed. This Section also gives a full account of the sources of the original data used, the exercises done and assumptions used in the processing of data so as to fit the requirements of the chosen model, the different scenarios for measuring the impact of the Uruguay Round, the validation and the calibration processes used in deriving the empirical results of the study. Section 3 tries to analyse the results derived through calibrations. The model has worked out the impacts of the Uruguay Round on domestic output, prices, employment, exports and imports and trade balance of India under various scenarios, involving different combinations of

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commercial policies, exchange rate movements and openness of the country towards international trade. Section 4 suggests some possible options for India following the establishment of the WTO and explores the scope for further research on the issues discussed by the present study.

1.2 Background of the GATT

Historically, openness to international trade has varied from country to country and from one era to another. Wars of hegemony, commercial interests of the countries, bilateral relations and public attitudes within countries to trade have been the major determinant of foreign trade policy of a country. In spite of sporadic attempts towards unilateral opening up[3] and the formation of plurilateral trading frameworks,[4] there was no consistent commitment towards the establishment of a broad-based multilateral trading environment until the middle of the 20th century. From the onset of the "great depression" to the World War II, impediments to international trade proliferated in quick succession, restricting the very essence of free international trade. During this period, it was realised that the collapse of the exchange rate mechanism and of the international payment systems resulted in the break down of the international trading system. However, it was also recognised that though the restoration of the international monetary system and exchange rate mechanism were important preconditions for freer trade, these measures, in themselves, may not be sufficient to revitalise international trade and thus, issues on freer trade order merited individual attention as well.

The Atlantic Charter, 1941, signed between the US and the UK, initiated a beginning in this direction. These countries took a leading role in evolving the idea of a permanent multilateral trade negotiating body, the International Trade Organisation (ITO). During 1947-48,

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the World Conference in Havana established the GATT as a temporary body for MTNs to be merged with the ITO as and when the member nations complete negotiations on the terms and conditions for the establishment of the latter. However, due to the dissatisfaction of the US and the UK over the form and structure of the ITO, this organisation remained a non-starter and the GATT, notwithstanding its temporary status, continued to be the forum for MTNs for the next 48 years. During this period, i.e. between 1947 and 1994, the GATT initiated eight Rounds of negotiations, details of which has been provided in the Annexure - I. Though it is often said that the immediate objectives for the establishment of the GATT were more of a strategic nature than economic,[5] the organisation was considerably successful in reducing the tariff barriers to international trade particularly in manufactured commodities.[6] The GATT worked on three major principles:

Nondiscrimination through the grant of MFN status to all the member nations,[7]

Reduction of tariff levels through mutual negotiations, and

Stabilisation of tariff levels.

The major weaknesses of the GATT included the virtual absence of its jurisdiction over a large portion of the international trade including trade in agricultural products and textiles and clothing and the limited role of the organisation in stalling the proliferation of non-tariff barriers (NTBs).[8] The GATT also remained unsuccessful in curbing unilateral retaliatory measures like Super 301 and Special 301. A brief discussion on these issues is important for understanding the need to have a freer global trading environment.

The lack of authority of the GATT on issues relating to trade in agricultural products was mainly due to the insistence of a large

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number of the industrialised countries that regulation of trade in agricultural products through the GATT would involve changes in domestic agricultural policies of the member nations. This, they felt, would be an undue interference with the domestic policies of the member nations. Even in the cases where the GATT had some jurisdiction over the trade in agricultural products, many industrialised countries took concessions from the organisation in this regard.[9] Further, these countries used subsidies and other non-border measures to insulate their relatively inefficient agricultural sector from international competitions. These steps, on the one hand, resulted in a very high level of agricultural prices within the industrialised countries[10] and on the other, affected adversely the interests of many of the developing countries which have major interest in agricultural exports. To counter such tendencies, many of the developing countries had put up a common front during the Uruguay Round negotiations for the inclusion of trade in agricultural products within the jurisdiction of the GATT in a comprehensive way.

The Multi-Fibre Arrangement (MFA), a bilateral quota-based system of trading, has been governing the trade in textiles and clothing since the early '70s. This system violates two basic principles of the GATT - nondiscrimination and the removal of NTBs. Many developing countries are major exporters of textile products and the lack of applicability of the general rules the GATT in respect of trade in textile products has affected the interests of these countries adversely. The MFA has allowed rent seeking by the inefficient textile producers in the industrialised countries and discouraged potentially competitive exporters from the developing countries in entering the market.[11] Against this background, many developing countries desired the inclusion of trade in textile products within the GATT to make it transparent and competitive.

Since the '80s there has been a surge of 'neo-protectionism'

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under which an increasing number of countries imposed various NTBs to insulate their domestic sectors.[12] In the case of some of the industrialised countries, the NTBs took their overall levels of protection in the '80 back to the high levels which prevailed during the World War II.[13] These, along with the unilateral measures of trade retaliations, threatened the basic fabric of MTNs.

In recent years a new school of thought on commercial policies has emerged which suggests that in the face of market imperfections and increasing returns to scale, interventionism can provide a better outcome than free trade. These gave credence to the protectionist policies of the '80s. However, the conclusions derived by these theories depend heavily on the assumptions they use. Moreover, these studies do not give any clear policy prescription.[14] During this period many countries realised that the high cost of such protectionist measures and the tendency to bypass the multilateral mechanism by taking unilateral or bilateral measures have undermined the role of international trade as a tool of development. During the negotiations of the Uruguay Round there emerged a near consensus among the member nations that the strengthening of the multilateral framework and making it broad based would serve the interests of all of them.[15] It is in this spirit the Uruguay Round negotiations were carried out.

1.3 Main Features of the Uruguay Round

The Uruguay Round is the longest Round of the GATT which began in September, 1986 at Punta del Este, Uruguay, and concluded in Geneva, Switzerland on December 15, 1993. The negotiations of the Uruguay Round were formally concluded on April 15, 1994, when the Commerce Ministers of the 116 member nations signed the agreement at Marrakesh, Morocco. In line with the Uruguay Round agreement, the ratification of the WTO took place on January 1, 1995,

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which thereby replaced the GATT as the forum for MTNs. The Uruguay Round has brought three new fields within the fold of the MTNs. These are trade in services, trade-related investment measures (TRIMs) and trade-related intellectual property rights (TRIPs). Trade in textiles and clothing (TTC) and trade in agricultural products, the major portions of which remained outside the purview of the GATT, have been integrated within the WTO.

The Uruguay Round has made the original GATT agreement and the amendments thereof till the start of the Uruguay Round (referred to as the GATT 1947) a legally separate entity from the Uruguay Round of the GATT agreement (referred to as the GATT 1994).

The agreements / decisions / declarations of the Uruguay Round can be classified into four categories.

Deals which changed the form of the MTNs : These are the agreements on the establishment of the WTO, understanding the rules and procedure governing settlement of disputes (DSU) and trade policy review mechanism (TPRM).

Deals which changed the scope of the MTNs : These consist of agreements on protocol, agriculture, sanitary and phytosanitary measures (SPS), technical barriers to trade (TBT), TRIPs, TRIMs and trade in services.

Deals which modified / clarified the earlier GATT norms: These are agreements on the understanding of certain Articles (Articles II: 1(b), XII, XVII, XVIII: B, XXIV, XXV, XXVIII, XXXV of the GATT 1947), implications of certain other Articles (Articles VI and VII of GATT 1947), pre-shipment inspection (PSI), rules of origin, import licensing, subsidies and countervailing measures and safeguards.

And, (IV) other deals, which contain four plurilateral trade agreements and 12 Ministerial decisions and declarations.

The WTO has been established as a single institutional framework covering the whole of the GATT 1994. It has been authorised to implement, administer, operate, settle disputes and review the provisions of the GATT 1994. The WTO has been empowered to establish bodies like Councils for Goods, Services and TRIPs. Acceptance of the membership to the WTO automatically implies acceptance of all the multilateral trade agreements of the GATT 1994.[16] The DSU has provided for a speedy, binding and transparent dispute settlement mechanism. What is more important, it prohibits unilateral steps by the aggrieved members against countries violating the trade norms. Members have to refer disputes to the WTO which, in turn, would be resolved through designated channels. DSU would allow cross retaliation across sectors if other measures are impractical or ineffective to counter the violation of the WTO norms. The "Agreement on TPRM" calls upon the members to introduce greater transparency in their trade policy-making and lays down the required procedures for doing so.

The "Agreement on Protocol" has provided formats - called national schedules - in which the members have made binding commitments on reduction of tariff and NTBs, and on giving support to domestic agriculture and export subsidies. Members have also made concrete commitments in the national schedules about giving a minimum access to domestic markets to other members.

The "Agreement on Agriculture" specifies which of the domestic support measures to agriculture and subsidies to agro-exports are subject to reduction commitments. Members have been instructed that the levels of product-specific subsidies[17] should not exceed 5 per cent of the value of the product. For non-product-specific

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subsidies the level should not exceed 5 per cent of the value of total agricultural produce of the member in that year. These levels are 10 per cent in each case for the developing countries. Any domestic support to agriculture in excess of these stipulated levels has to be reduced by 20 per cent in the case of the industrialised countries and by 13.3 per cent in the case of the developing countries. In the case of non-exempted export subsidies to agricultural products, the quantum of subsidies has to be reduced by 36 per cent and items covered by such subsidies have to be reduced by 21 per cent. The base period for such calculations is 1986-90. The reductions required by the developing countries are two-thirds of the reduction requirements of the industrialised countries. Members have to transform NTBs into equivalent tariff measures. Further, these tariffs in turn have to be reduced by 36 per cent on an average with a minimum reduction for each tariff line. For the developing countries the reduction would be 24 per cent on an average. The members would give an initial market access to the other members into their domestic market for agricultural products which is, in general, equivalent to 3 per cent of the domestic consumption and this would increase to 5 per cent over the implementation period.[18] However, the agreement provides measures to safeguard against a sudden rise in agricultural imports. The implementation period of the agreement is six years for the industrialised countries, 10 years for the developing countries and the least-developed countries need not make any reduction commitment. In one of the "Ministerial Decisions and Declarations" it has been resolved to provide more aid, grants, official assistance and technical help to the least-developed countries and net-food importing developing countries to counter any possible hardship which they may face because of the increase in agricultural prices in the liberalised regime.

Although certain quality measures and technical norms are

required under both the agreements on SPS and TBT to safeguard the life and health of human beings, animals, plants and the environment, such measures could create an anti-trade bias. These agreements have tried to eliminate the arbitrary and trade-distorting components of such measures by establishing equivalence between different national standards. These agreements also insist the members to harmonise their standard requirement norms and to adopt the internationally recognised standards in the fields wherever they exist. Any standard requirement which is more stringent than the international standard in that field has to be, in general, backed by adequate reasoning. The developing countries and least-developed countries would get numerous concessions in terms of standard requirements.

The "Agreement on TTC" has started the process of integration of TTC with the WTO by phasing out the MFA. In the initial phase (1995-97) of integration of the TTC with the WTO, items of textiles and clothing which covered 16 per cent of the TTC in 1990 have been integrated with the GATT. In the next two phases (1998-2001 and 2001-2004, respectively) this would increase by 17 per cent and 18 per cent respectively and ultimately after 10 years of establishment of the WTO, the remaining 49 per cent of the TTC will get integrated with the WTO. Non-MFA restrictions to TTC which are not in conformity with the rules of the WTO would also be phased out during the implementation period of 10 years. Further, trade in items which remain within the MFA during the implementation period also have to grow by the stipulated amounts.[19]

The "Agreement on TRIMs" tries to establish fair trade practices in these fields by introducing national treatment of foreign investments and by removing quantitative restrictions on these. Here also the developing countries and least-developed countries would get favourable treatment.

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The "Agreement on Services" calls on the members for giving MFN status to other members with regard to trade in services. There are, however, specific exceptions to this. This agreement recognises that domestic regulations are very important in determining the trade in services. That is why the agreement requires the countries to administer these regulations in a reasonable, objective and impartial way. The provisions for national treatment and market access under this agreement are not general obligations for the members but these are commitments which they made in their respective national schedules. This agreement has initiated the process of progressive liberalisation in trade in services and resolves to increase the participation of the developing countries in these fields. The agreement has provided the basis for negotiation in respect of various services.[20]

The "Agreement on TRIPs" covers trade in various intellectual property rights (IPRs). IPRs encompassed by this agreement are copyrights, computer programmes, films, artistic performances, trade marks and service marks, geographical indicators, industrial designs, patents and layout design of integrated circuits. The agreement has asked the members to give national treatment and the MFN status to the other members with respect to TRIPs. Further, members have agreed to follow various norms of the numerous international conventions for specific IPRs.[21] This agreement recognises the private nature of the IPRs and thus gives exclusive right of commercial exploitation of such rights for a specified period to the agencies which have innovated these. While members have to ensure effective implementation of the IPRs there is no obligation for the members to change their national legal and enforcement systems for the protection of the IPRs or to give any precedence to the disputes related to IPRs over others. The period of implementation of the agreement is one year from the date of establishment of the WTO for

the industrialised countries, while for the developing countries and countries under transition, it is five years which may, however, be extended up to 10 years in specific cases. For least-developed countries the transition period is 11 years.

The "Agreements on Understanding of the Specific Articles of the GATT 1947" have clarified certain "gray areas" of the GATT. These "gray areas" are other duties or charges, activities of the state trading enterprises, balance-of-payment provisions, customs union and free-trade areas, waivers from the GATT, modification of the GATT schedules and non-application of the GATT norms.

Agreements on the implications of Articles VI and VII have made the WTO procedures for anti-dumping and customs valuation more specific. To initiate an anti-dumping procedure a country has to prove, through a specific method, that dumping is taking place and is causing serious injury to domestic industry. Normally an anti-dumping measure would have a maximum life of five years. Agreement on customs valuation empowers the customs authorities to ask for more information from the importers if there is any doubt about the declared value of the imports. The "Agreement on PSI" asks the countries to make the pre-shipment inspection nondiscriminatory, transparent, quick and should protect trade secrets. An independent review procedure has been established for dispute settlement in this context. The "Agreement on Rules of Origin" has tried to harmonise the rules of origin, other than for the purpose of tariff concessions, to eliminate any anti-trade bias of these regulations.

The codes on subsidies and countervailing measures remained one of the "gray areas" of the GATT so far. The "Agreement on Subsidies and Countervailing Measures" have made an attempt to make these norms transparent. The agreement pertains only to

specific subsidies and has divided these subsidies into three categories - prohibited, actionable and non-actionable. Prohibited subsidies have to be withdrawn immediately. If the actionable subsidies cause adverse effects, either these have to be withdrawn or their adverse effects have to be removed. Non-actionable subsidies would not attract any action against them in normal circumstances. The agreement has specified the process to initiate countervailing measures. A clear causal link between the subsidies given by other members and injury to the domestic industry of the importing country has to be established to initiate such a step. In general a countervailing measure would expire after five years of its application. Least-developed countries and other low-income countries would get exemption from prohibited export subsidies and they would also get time bound exemption from other prohibited subsidies. Other developing countries and countries under transition would get longer implementation for phasing out the prohibited subsidies.

It has been urged by the "Agreement on Import Licensing Procedures" that such procedures have to be transparent and stable over time and the administrative methods emanating from these should impose as little burden as possible on the concerned parties.

The "Agreement on Safeguards" clarifies the WTO regulations which empower the members to take action against imports if these impart injury on the domestic economy. Under this agreement all such safeguard measures either have to be brought in conformity with the WTO rules or have to be phased out within four years of the establishment of the WTO. The agreement has specified the situations under which safeguard measures can be used and has asked the countries to make the anti-trade impact of such actions as little as practicable. These measures would have a specific life,[22] within which these have to be phased out progressively.

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Countries that desire to be members of the plurilateral agreements, need to apply for it separately along with their application for the membership of the WTO. Various "Ministerial Decisions and Declarations" made during the Uruguay Round clarified various procedures for the establishment and working of the WTO apart from granting special concessions and facilities to the least-developed countries and other countries in disadvantageous positions. The declarations and decisions also explained the spirits of various agreements of the Uruguay Round.

2. Modelling The Impacts of Policy Changes - A Review

The aim of the study is to choose a disaggregated computational model of production and trade which can capture the impact of the Uruguay Round under alternative policy situations. As the Uruguay Round encompasses a multitude of issues covering almost all the sectors of an economy, any modelling exercise aiming at projection of its likely impact on the Indian economy necessitates the use of a full scale macro-economic framework. Apart from sectoral linkages, such a model needs to capture the effects of cross-border policy changes in view of the increasing global integration as envisaged under the Uruguay Round.

Economists have used different types of models to study the impacts of policy changes on the micro and macro behaviour of an economy. Some of these models have focused on the effects of trade policy changes including those emanating from the MTNs. Important models of this category include experimental General Equilibrium Model (GEM) developed by the World Bank, Project LINK of Hickman[23], SIMLINK used by Hicks[24], IIASA model developed by International Institute for Applied Systems Analysis, World Agricultural Liberalization Study (WALRAS) model of the Organisation of Economic Cooperation and Development (OECD), Michigan Model[25] and Rural/Urban - North/South (RUNS) model developed in the World Bank.[26] Though the basic objectives of all these models are broadly the same,[27] there are substantial differences among them in terms of specification, coverage, data requirements and, perhaps most importantly, the emphasis on different sectors and sectoral inter-linkages.

In order to study the impact of the Uruguay Round on the growth and structure of the Indian economy, the choice of a particular model has been influenced by the following major conditions.

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The model should capture intersectoral linkages as the direct impact of the Uruguay Round on one sector is likely to spill over to other sectors. Further, the need to explore sectoral policy options for India in the post-Uruguay Round period necessitated the adoption of a model which allows a fair level of disaggregation.

Though the aim of the study is to carry out the analysis in a two-country framework, it was felt necessary that the modelling of the impact of the changes in the world situation as emanating from the completion of the Uruguay Round on the Indian economy should be as realistic as possible and it should capture the inter-linkages between the rest-of-the-world and India.

While the Uruguay Round recognises that there would be modifications of trade as well as other macro-policies, its effects are likely to be felt more decisively on trade policies. Therefore, the model had to have a special focus on trade policies.

While the effects of the Uruguay Round are likely to be pervasive across all the spheres of the economy including the technology of production, the initial impact is likely to be concentrated on relative prices. The impetus for changes in other spheres is likely to originate from the price signals that would emerge from changes in relative prices. This has formed an important basis for model selection in the present study.

The Michigan model satisfied most of these criteria, although it had to be somewhat modified to suit to Indian realities and the availability of data. Further more, because of the inadequacy of data on a number of macro-variables, the study had to settle for a comparative static framework whereby the impact of the Uruguay Round has been studied within the scope of a one-shot change in the policy variables.

2.1 The Modelling Framework Used by the Study

The modified version of the Michigan model[28] used in the present study differs from the original model on three major aspects.

In the present model rather than taking 'm' countries (as done by the original version) the study has taken two countries *viz;* India and the rest-of-the-world (ROW);

In the original model world prices are endogenously determined by world supplies and demands. However, in the modified model these prices are treated exogenous. The study has made use of the information on the likely changes in world prices in the post-Uruguay Round drawing from other studies in this context; and

In the original model distinction has been made between tradable and non-tradable sectors. However, in the modified version such a differentiation has not been followed.

2.2 The Major Assumptions of the Present Model

There are two countries - India and the ROW - and a total of 'n' goods/sectors.

Production process for a commodity for domestic consumption is different from the production of the same commodity for exports.

Buyers of a commodity (either for final consumption or for use as an intermediate input in production) distinguish between the good produced in India and that imported from the ROW.

India is a small player in the world economy. Therefore, any changes in India's supply of exports or demand for imports do not affect the world prices significantly. This implies that world prices are exogenous for India's exporters and importers.

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India's exchange rate is a exogenous variable i.e., it is not determined within the system.

Wage rates are provided to the system from outside.

The technology of production is exogenous to the system.

Consumers are utility maximisers, while producers maximise their profits. The decision of individual agents can be added-up to get the aggregate level.

The utility functions of consumers follow the Cobb-Douglas form and they are homogeneous in imported and domestically produced goods.

The isoquants facing the producers are L-shaped, i.e., the technology is represented by the input-output relation whereby inputs are required in fixed proportion to produce one unit of output.

The production functions are linear homogeneous and the level of substitution between the imported and domestically produced inputs follow a constant elasticity of substitution.

Besides the above, it is assumed that for a good i, there would be three prices - (a) a domestic price of the home produced good for domestic use[30] , p_i^H (if there is a domestic tax $(1-t_i^H)$ on home produced good the domestic producer producing for the home sector receives $t_i^H p_i^H$) (b) an export price p_i^X and (c) an import price p_i^M. In the present model, p_i^H is determined by the interaction of domestic demand and domestic supply and p_i^X and p_i^M get determined by the world price (p_i^W), tariff, and the exchange rate (R).

2.3 Sectorisation Used by the Study
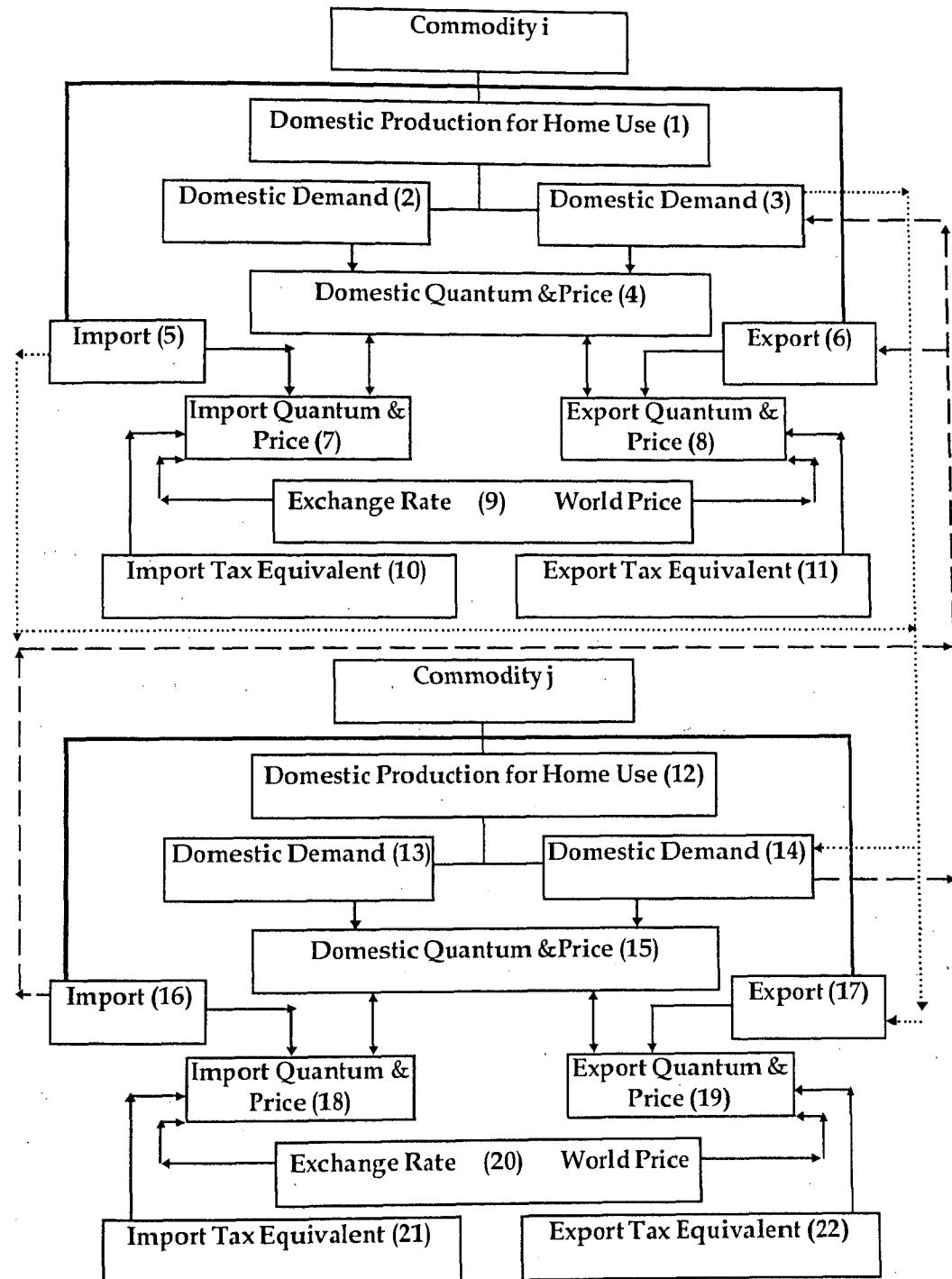
The present sectorisation has been adopted keeping three issues in mind. First, the study identified certain sectors which are likely to get affected by the Uruguay Round the most. These sectors were incorporated within the study at the disaggregated level.

Secondly, to get adequate data on the sectors, an attempt has been made here to synchronise the sectorisation with the sectoral classifications used by the Central Statistical Organisation (CSO) and the Annual Survey of Industries (ASI) (factory sector). Thirdly, it was also intended that the level of disaggregation should not exceed the level of feasibility. On the basis of these criteria the economy has been divided into 16 sectors. These sectors are :

1. Paddy
2. Wheat
3. Pulses
4. Cotton
5. Sugar
6. Beverages
7. Tobacco and tobacco products
8. Cotton textiles
9. Woolen textiles
10. Art silk, synthetic fibre etc. textiles
11. Jute, hemp, mesta etc. textiles
12. Ready-made garments, made-ups etc. textiles
13. Miscellaneous textiles
14. Wood and wood products and paper and paper products
15. Drugs and medicines
16. Residual sector.

The sectors mentioned above can broadly be classified in two categories. While sectors 1 to 4 fall within the scope of 'agriculture', the rest of the sectors come within the ambit of 'industry'.[31] Among the sectors representing the industrial segment, sectors 5 to 7 and 14 represent what could be called agro-based. Sectors 8 to 13 represent the textiles industry and sector 15 forms a part of the chemical and allied industry. Sector 16, as the name suggests, consists of the sectors which have otherwise not been included.

Figure 1: Flow-chart depicting the working of the model used by the study.

2.4 Background to the Calibration Exercise

2.4.1 Data Sources and Processing

The basic data required for the present study include commodity-wise information on the values of domestic output, exports and imports, levels of capital stock, prices (domestic prices, export prices, import prices, and international prices) the share of labour and capital in value-added, levels of employment and wage rate. Further, the model required information on input-output coefficients. At the aggregate level, information on exchange rate, consumption, GDP at market prices, exports and imports were also required.

The study has used the three-year period average from 1988-89 to 1990-91 as the base period. The rationale for choosing this period is twofold. First, this represents a generally normal period for the Indian economy. Secondly, for various calculations relating to the agreements of the Uruguay Round, the GATT/WTO itself has decided to use these years as base years. Most of the variables used in the model in the present study are in difference form and the study therefore utilised the basic data for the period 1987-88 to 1990-91.

Disaggregated data relating to the sectors falling under the broad category 'industries' have been obtained mostly from the Annual Survey of Industries - Summary Results for the Factory Sector. Data on sectors falling under the category 'agriculture' have been obtained from sources like the Ministry of Agriculture, the Central Statistical Organisation (CSO) and the National Sample Survey (NSS). Domestic prices are Wholesale Price Indices (WPIs) published by the Ministry of Industry. International trade figures for India have been obtained from the publications of the Directorate General of Commercial Intelligence and Statistics. World prices have been

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obtained from various publications including the United Nation's Commission on Trade and Development (UNCTAD), Commodity Yearbook and World Trade Yearbook. Conjectures about the possible changes in world prices after the Uruguay Round have been collected from studies conducted by the Secretariat of the GATT and Organisation of Economic Cooperation and Development (OECD). Information on input-output coefficients and related variables have been collected from input-output tables published by the CSO for 1983-84 and the input-output tables calculated by the Planning Commission, Government of India, for 1988-89 by calibrating the 1983-84 table.

For sectors related to 'agriculture', however, some information like capital stock, employment, etc. are available only at the aggregate level. To obtain figures for capital stock at disaggregated levels, the study has assumed that capital-output ratio of the base period is constant across the sectors under 'agriculture'. For obtaining employment at disaggregated levels it has been assumed that the labour-output ratio (for a year) is constant across 'agriculture'. Disaggregation of capital stock into export production and production for domestic use for a particular sector has been obtained by assuming that capital-output ratios for the segment producing for exports and that in the segment producing for domestic use are the same.

Apart from the inter-industry inputs, there are two other factors of production in the present model - labour and capital. For sectors falling under 'industry', it has been assumed that any income which is not a compensation or wage for labour accrues to capital. In the case of 'agriculture', however, labour income includes gross compensation to labour as well as mixed income. It has been assumed that the income earned by a factor is equal to the value-added by it.[32] The shares of labour and capital in value-added have been calculated under this assumption.

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For quantum of domestic output the study has used the index of production, for exports and imports, the respective quantum indices have been used. For domestic, export and import prices the study has used WPI, unit value indices for exports and unit value indices for imports, respectively. The ratio of export to total production has been obtained by dividing the value of exports by the value of total production. The share of imports in total domestic consumption has been obtained through dividing the value of imports by the value of domestic consumption where domestic consumption is net domestic production[33] plus imports. The wage rate for a sector is the average wage rate, i.e. the wage bill divided by total employment.

2.4.2 Process of Validation and Calibration

For the base period, all the variables and the parameters used by the model are observable except for the elasticities and export and import tax equivalents. Using export and import price equations and observed changes in exchange rate, world prices and export and import prices during the base period, the study has estimated export and import tariff equivalents for the base period. In the next stage, these tariff equivalents and measures of elasticities collected from other studies have been used in various demand and supply equations and the equations for net exports and trade balance to get the base run results. Values of the endogenous variables generated by the model for the base period have been compared with the corresponding actual figures. It has been observed that the percentage error between the actual and the base run estimates remained within 5 per cent at the sectoral levels and within 2 per cent at the aggregate level. Under this validation process, values of price elasticities of supply have been modified by small amounts to bring further conformity between the actual and base run figures. Table 1 gives measures of these modified price elasticities of supply and the divergence between the actual and the base run estimates.

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Table 1

Price Elasticities of Supply Used by the Study and the Errors of Estimation

Sector	Elasticities	Errors *
1. Paddy	0.30	3.17
2. Wheat	0.15	4.27
3. Pulses	0.01	2.12
4. Cotton	0.33	1.15
5. Sugar	0.55	0.71
6. Beverages	0.64	0.98
7. Tobacco and tobacco products	0.01	1.21
8. Cotton textiles	0.01	4.13
9. Woolen textiles	1.23	3.87
10. Art silk, synthetic fibre etc. textiles	1.23	2.25
11. Jute, hemp, mesta etc. textiles	0.20	4.98
12. Ready-made garments, made-ups etc. textiles	0.50	0.74
13. Miscellaneous textiles	0.50	4.13
14. Wood and wood products and paper and paper products	0.10	3.74
15. Drugs and medicines	1.80	0.17
16. Residual sector	0.30	1.21
Overall		1.97

* Errors indicate percentage difference between the actual and base run estimates.

Having thus satisfied with the appropriateness of the framework in the Indian context, reflected by low percentage error, the study has used the modified Michigan model to estimate the impact of the Uruguay Round on the Indian economy.

The first step of the simulation exercise has been to measure the impact of the Uruguay Round under the base line situation. Two variants of the base situations have been considered for this purpose. These two situations have been called the "base scenario" and the "modified base scenario". While under the base scenario all the changes in the exogenous variables except for world prices[34] remain the same as the base period (i.e. average of 1988-89, 1989-90 and 1990-91), under the modified base scenario export and import tariff equivalents decline by 25 per cent over their base period levels, other things being the same. It may be noted that while base scenario incorporates the policy situation in India for the period preceding the introduction of the economic reform process[35], the modified base scenario approximates those during the period following the introduction of economic reforms.[36] Therefore, the impact study under these two scenarios provide estimates of the effects of the Uruguay Round on the Indian economy under pre-reform and post-reform environment.

The study has also simulated the impact of the Uruguay Round under various well-defined policy situations involving specified changes in the values of the exogenous variables. Detailed description of these different policy situations has been provided in the next subsection.

2.4.3 Description of Policy Scenarios Used for Simulation

The purpose of using different policy situations in the study has been to evaluate the relative merits of these policies during the post-Uruguay Round period. Apart from the base scenarios the study has used 22 such policy situations. These situations have been constructed by varying the values of different parameters in the model. The parameters whose values have been changed for this purpose are broadly three - export-import orientation of the country, exchange rate movement and the tax equivalents. Table 2 gives the description of these policy scenarios.

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Table 2

Description of the Various Scenario Used by the Study

Scenario	Export/ Domestic Production	Import/ Domestic Consumption	Exchange Rate	Export Tax Equivalent	Import Tax Equivalent
1	10 % increase over base	10 % increase over base	10 % increase over base	Same change as base	Same change as base
2	10 % increase over base	10 % increase over base	10 % increase over base	25 % decrease over base	25% decrease over base
3	10 % increase over base	10 % increase over base	10 % increase over base	No change over base	No change over base
4	10 % increase over base	10 % increase over base	10 % increase over base	25 % increase over base	25 % increase over base
5	10 % increase over base	10 % increase over base	5 % increase over base	Same change as base	Same change as base
6	10 % increase over base	10 % increase over base	5 % increase over base	25 % decrease over base	25 % decrease over base
7	10 % increase over base	10 % increase over base	5 % increase over base	No change over base	No change over base
8	10 % increase over base	10 % increase over base	5 % increase over base	25 % increase over base	25 % increase over base
9	10 % decrease over base	10 % decrease over base	10 % increase over base	Same change as base	Same change as base
10	10 % decrease over base	10 % decrease over base	10 % increase over base	25 % decrease over base	25 % decrease over base
11	10 % decrease over base	10 % decrease over base	10 % increase over base	No change over base	No change over base
12	10 % decrease over base	10 % decrease over base	10 % increase over base	25 % increase over base	25 % increase over base
13	10 % decrease over base	10 % decrease over base	5 % increase over base	Same change as base	Same change as base
14	10 % decrease over base	10 % decrease over base	5 % increase over base	25 % decrease over base	25% decrease over base
15	10 % decrease over base	10 % decrease over base	5 % increase over base	No change over base	No change over base
16	10 % decrease over base	10 % decrease over base	5 % increase over base	25 % increase over base	25 % increase over base
17	Unchanged over base	Unchanged over base	10 % increase over base	No change over base	No change over base
18	Unchanged over base	Unchanged over base	10 % increase over base	25 % increase over base	25 % increase over base
19	Unchanged over base	Unchanged over base	5 % increase over base	Same change as base	Same change as base
20	Unchanged over base	Unchanged over base	5 % increase over base	25 % decrease over base	25 % decrease over base
21	Unchanged over base	Unchanged over base	5 % increase over base	No change over base	No change over base
22	Unchanged over base	Unchanged over base	5 % increase over base	25 % increase over base	25 % increase over base

Note :   Base indicates base period of the study which is the average during 1988-89, 1989-90 and 1990-91.

It may be observed that the changes in the values of the parameter across different scenarios have been kept at low levels. This has been done because the calibration exercise conducted by the study was based on the structure of the economy at the base level i.e. the period preceding the Uruguay Round. A sharp change from the values of the parameters from their base values may not be desirable, as this may overwhelm all other impacts.[37] The impact of the Uruguay Round though likely to be far reaching would come primarily through changes in world prices. Therefore, the alternative scenarios in the study essentially involve changes in the values of the parameters associated with India's foreign trade.

At the global level as well as in India, there is an increasing consensus that 'outward-looking' development strategies are more beneficial than 'inward-looking' policies. The study examines this premise in the post-Uruguay Round situation by varying the export-import orientation of the country.

From the middle of 1991-92, India has increasingly shifted towards a market oriented exchange rate regime. The past experience shows that domestic rate of inflation in India typically exceeds that at the global level. Therefore, it is likely that under a market-based exchange rate regime over a longer period of time, there would be a slow downward movement of the nominal exchange rate of rupee for maintaining the real effective exchange rate at competitive levels. The study has envisaged two situations under which Indian currency depreciates in nominal terms with different degrees.

While larger openness is synonymous with larger export-import orientation, it does not necessarily mean lower levels of effective tariff rates on the flows of foreign trade.[38] Therefore, the study has examined scenarios involving different levels of impediments to international trade and their implications for the Indian economy.

The Uruguay Round agreements have tried to establish a closer integration among the economies of the member nations. This is co-terminus with the objectives of the ongoing reform programme in India. The policy variables used by the study capture different dimensions of the extent of integration of the Indian economy with the rest-of-the-world. By experimenting with different values of policy variables in various combinations under alternative scenarios the study has tried to explore the policy configuration that would prove most conducive for the growth of the Indian economy. As the Indian economy is not a monolithic entity, the existence of trade-offs between various macro-variables as well as between the objectives of separate sectors cannot be ruled out. The diffusion of such trade-offs calls for fine tuning of the policy variables rather than initiation of across-the-board policy measures. For this reason, the study has adopted a large number of scenarios and the impact of each scenario has been studied at the disaggregated level.

3. The Impact on the Indian Economy

This section begins by examining the overall impact of the Uruguay Round on output, foreign trade, inflation and employment at the aggregate level under base line scenarios[39] and goes on to examine the impact on different sector/industries. In the next stage, the study would analyse the relative impacts as the levels of the exogenous variables change under different policy scenarios to gain understanding of overall influence of the Uruguay Round under different policy situations. Although the initial impact of the Uruguay Round on the Indian economy is likely to be spread over a number of years as most of the agreements of the Uruguay Round have a transition period of up to 10 years, the model takes these as one-shot, before and after Uruguay Round kind of comparative static framework.[40] To get a picture of the impact of the Uruguay Round on an annual average basis, impacts have been represented in the annualised form. The changes that would take place in the country in face of the implementation of the Uruguay Round agreements cannot be exactly quantified due to lack of the exact data and the possible techno-economic legal changes during the implementation period. However, the present exercise throws some lights on the contours of the possible outcome under different policy situations.

3.1 Results of the Simulation Experiments under Base Scenarios

It may be seen from Table 3 that India's GNP, exports, imports and employment are likely to get considerable boost from the Uruguay Round under both the variants of the base situation. GNP at constant prices may increase by 1.4 per cent per annum, exports by more than 3.5 per cent, imports by 1.1 per cent and employment

by around 1.2 per cent. Though the impact of the Uruguay Round is likely to increase domestic inflation by 2.0 per cent per annum, there may be a fall in both export and import prices. Further, the Uruguay Round agreements are likely to have considerable positive impact on India's merchandise trade balance.

The Uruguay Round requires the members to reduce their tariff and NTBs and give larger access of their respective domestic markets to other members of the WTO. While these moves may particularly raise the prices of the temperate agricultural products,[41] world prices for industrial products are likely to fall as impediments to the international trade in these products decline following the implementation of the Uruguay Round agreements. Most of India's imports are of industrial origin. Therefore, decline in world prices is likely to decrease import prices and increase import quantum. On the other hand, though agriculture directly accounts for only one-fifth of India's total exports, many of India's major industrial exports are agro-based.[42] Both the quantum and prices of these export items may rise in the post-Uruguay Round period. However, even for those export items whose world prices may register decline, reduction in impediments to trade and sizeable expansion in the world market is likely to boost India's exports considerably. Further, many of India's exports are intensive in imports. Larger access to these imports and decline in their prices would provide further spurt to India's exports.

Increase in world prices in many of the primary products, high pace of export expansion and rise in GNP in the post-Uruguay Round period may increase the prices and quantum of domestic production for home use. However, it may be observed that an increase in the quantum of exports is likely to be more than three times of those of imports and domestic production for home use (Table 3).

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Table 3

Impact of the Uruguay Round under Base Scenarios

(per cent)

Variable	Impact under	
	Base Scenario	Modified Base Scenario
Change in Quantum		
GDP	1.40	1.38
Domestic Output for Home Use	1.13	1.11
Export	3.59	3.65
Import	1.14	1.18
Change in Price		
Domestic	1.96	1.97
Export	-0.81	-0.32
Import	-0.64	-0.13
Change in Employment	1.22	1.21
Trade Balance as Percentage of GDP	0.10	0.11

Note : Growth rates are annualised percentage changes.

It may be observed from Table 3 that impact of the Uruguay Round under base scenario and modified base scenario are broadly similar. However, there are some important differences in the relative impact of the Uruguay Round under these two scenarios which may need some illustration. Table 3 indicates that while the relative increases in GNP, domestic output for home use and employment and the relative declines in export and import prices are likely to be more under base scenario, relative increase in the quantum and prices of exports and quantum of imports are likely to be larger under modified base scenario.

It has been explained before that the only difference between base and modified base scenario is that export and import tariff equivalents are 25 per cent lower in the modified base scenario over the base scenario. A higher level of protection allows greater import substitution which, in turn, can boost GNP and employment. However, the recent experiences of many of the newly industrialised countries and developing countries including India show that output and employment gains under import substitution can be a short- run phenomenon. It is likely that over a longer time horizon, modified base scenario would not only help the country to catch up with the GNP growth under the base scenario, but it would also have more favourable impact on other macro-economic variables of the Indian economy like exports and imports.

At the sectoral level, impact of the Uruguay Round on the Indian economy and the differences of the effects under base and modified base scenario generally follow the same directions as at the aggregate level (Statements 1 and 2).

3.2 Impact of the Uruguay Round under Different Policy Scenarios

The policy simulations undertaken by the study aim at examining the implications of alternative policy choice on India's economic performance in the post-Uruguay Round period. These simulations focus at illustrating the impact of variations in (a) India's openness to foreign trade, (b) India's exchange rate *vis-a-vis* major trade partners, and (c) levels of export and import tariff equivalents on the Indian economy. To illustrate the effect of such policy changes, some of the policy alternatives have been explained in detail in the following sections. However, for actual simulation the study used a larger number of scenarios. Simulated impacts of the Uruguay Round under some of the important scenarios have been reported in the Statements given in Annexure III.

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3.3 Degree of Openness

In the present study, the notion of degree of openness has been identified as the share of exports and imports in total domestic production and consumption, respectively. Keeping the changes in other two policy variables[43] the same, change in the degree of openness has been varied in three different ways - once it has been increased by 10 per cent over the base level, in the second case it has been kept unchanged at the base level and lastly it has been decreased by 10 per cent over the base level. Simulated impacts of the Uruguay Round under these three situations have been reported in Table 4.

Results of Table 4 show that a higher level of openness may lead to higher rates of growth of GNP, imports and employment and may bring down, at the same time, expansion of exports. While increased openness is likely to be associated with higher domestic inflationary potentials, its impact on export and import prices is not definite. Further, India's trade balance is likely to get adversely affected by higher openness.

If the country has greater openness to foreign trade, GDP may increase more because of positive externalities associated with larger openness[44] and/or the presence of positive externality in domestic production. Greater access to imports can also induce GDP growth rates by enhancing the supply of factors of production which may be scarce in the domestic economy.

With perfect competition in the product market and the absence of any externality in production[45] or in international trade,[46] the openness of a country in terms of international trade should not affect the level of domestic output for home use. However, since the

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results of the present study show a positive association between India's openness and the growth in domestic output for home use, there can be at least three possibilities :

Table 4

Impact of the Uruguay Round with Variations in the Degree of Openness

(per cent)

Variable	Impact Under		
	10 % Increase	Unchanged	10 % Decrease
Change in Quantum			
GDP	1.40	1.39	1.39
Domestic Output for Home Use	1.07	1.06	1.05
Export	3.87	3.88	3.89
Import	1.04	1.00	0.95
Change in Price			
Domestic	2.10	2.01	1.92
Export	1.04	1.04	1.04
Import	1.29	1.29	1.29
Change in Employment	1.22	1.20	1.19
Trade Balance as Percentage of GDP	0.16	0.17	0.18

Note : Growth rates are annualised percentage changes.

Producers in India can be discriminating monopolists who may face a monopolistic / oligopolistic market in the domestic economy but a perfectly competitive one when it comes to foreign trade. Further, there can be structural and/or

behavioural constraints for Indian exporters. A change in these factors which allows the producers to export more would, in turn, allow them to produce more for home use at a price which is lower than the domestic price[47] that prevailed earlier.

Lower levels of openness of the economy can constrain production activities in India due to shortage of some critical factors of production.[48] An increase in accessibility of these products through imports would, thereby, help the producers to produce more for domestic use.

There can be positive externality associated with higher openness and this also can boost domestic production for home use. [49, 50]

In line with the impact at the aggregate level, there is a positive relation between the growth rate of domestic output for home use and openness of the country to foreign trade for most of the sectors. Results indicate that in the case of pulses where India is a net importer, further openness is likely to be detrimental to the interests of the domestic producers. For textile products, there is no impact of larger openness on domestic output for home use. It may be recalled that international trade in textile products were so far governed by a bilateral quota-based system, MFA, that had distorted the operation of the market forces and there are indications that due to quota-based system, scale economies do not play any significant role in these trade. Contrary to the results at the aggregate level, for wood and paper products and drugs and medicines, the impact of larger openness would not have any definite impact on the growth of domestic output for home use (Statements 3 and 4).

Unfavourable impact of larger openness on export growth rates is somewhat confusing. In a purely statistical sense higher share of exports in domestic production means same incremental export woulds give rise to lower export growth than in a situation with lower

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share of exports in domestic production. Increase in international competition in the post-Uruguay Round situation requires that Indian exporters should enhance their productivity and adopt better technology for production. Further, there are various commodities which India exports and imports simultaneously. In the presence of such intra-industry trade, a larger openness may increase export-competing imports. This, in turn, may hinder exporters from reaping scale economies and thereby exports growth may actually decline. Such a possibility in the Indian context calls for the introduction of concrete incentives for the exporters and modernisation of export production to sharply enhance India's exports.

In line with economic theory, results of the study indicate that the relation between larger openness and import growth is positively related at the aggregate as well as disaggregated levels. In line with the positive relation between import growth rate and openness and the negative relation between export growth rate and openness, India's trade balance is likely to worsen under greater openness.

A larger openness brings the domestic prices in line with the international prices. In the case of India, larger openness would increase domestic prices. This *prima facie* means that Indian products are internationally price competitive.[51] The lack of definite impact of increased openness on export and import prices[52] seen in the results validates the conjecture that Indian exporters as well as importers are, by and large, price takers in the international market and therefore a change in the level of India's exports and imports do not affect world prices significantly. Impact of larger openness on the domestic prices at the sectoral levels are in line with the observed changes at the aggregate level (Statements 3 and 4).

The positive association between an increase in the openness of the country and employment growth may indicate the presence of

excess capacity and/or structural bottlenecks within the economy. Increases in openness may provide an opportunity for the excess capacity to be utilised for additional exports in certain sectors while increased access to imports may reduce supply bottlenecks in some of the sectors of the economy. In either case, a larger openness would result in an augmentation of domestic production and a consequential rise in domestic employment. The impacts of greater openness on employment follow the same pattern as at the aggregate level, although there are some notable exceptions. For example, in certain segments of the textile sector, an increased openness may lead to lower employment growth. This can be due to the positive effect of larger openness on the speed of modernisation and high capital intensive technology adoption. It is likely, however, that greater openness in the post-Uruguay Round period while furthering modernisation, could lead to a rise in employment in allied activities in the long-run. But in the short-run, this may result in lower job creation in these industries even if output rises.

3.4   Movements in Exchange Rate

In the context of analysing the impact of variations in exchange rate on various macro-economic variables in the post-Uruguay Round period, the study considers two scenarios. In both of these scenarios changes in other exogenous variables[53] remain the same. But while in the first case exchange rate depreciates by 10 per cent, it depreciates by 5 per cent in the other.

From Table 5 it may be observed that higher level of devaluation is likely to induce higher rates of growth of GNP, exports, domestic prices and trade surplus. Further, higher devaluation may also bring down import growth rate and fall in export and import prices. However, the impacts of larger devaluation do not appear to be considerable on rates of growth of domestic output for home use and employment.

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Table 5

Impact of the Uruguay Round under Variations in Exchange Rate
(per cent)

Variable	Impact under	
	5 % Devaluation	10 % Devaluation
Change in Quantum		
GDP	1.38	1.41
Domestic Output for Home Use	1.15	1.15
Export	3.46	3.59
Import	1.30	1.18
Change in Price		
Domestic	2.02	2.05
Export	-1.36	-0.81
Import	-1.20	-0.64
Change in Employment	1.24	1.24
Trade Balance as Percentage of GDP	0.07	0.10

Note : Growth rates are annualised percentage changes.

Exchange rate depreciation makes domestic currency cheaper *vis-a-vis* foreign currency. If export and import prices in terms of foreign currency remain unchanged, a devaluation is likely to increase the prices of both exports and imports in domestic currency. However, if the increase in the prices of exports in domestic currency are less than proportionate to the amount of devaluation, their prices in foreign currency terms would fall. From the perspective of growth, it boosts domestic production by both increasing the possibility of import substitution and brightening the prospects for exports.[54]

Monetary theory of foreign trade suggests that if currency

depreciation affects the structure of an economy it does so through the change in relative price of the tradable *vis-a-vis* non-tradable making the former costlier and the latter cheaper. Since domestic production for home use involves the production of both tradable and non-tradable,[55] the impact of exchange rate adjustment on the domestic production for home use depends on the structural composition of it in terms of tradable and non-tradable. Therefore, the exact impact of exchange rate depreciation on domestic production for home use remains ambivalent.[56]

As in the case at the aggregate level, impact of exchange rate movement on changes in domestic production for home at the sectoral levels are, in many cases, not definite. However, some of these results may need some elaboration. For example, the domestic production of pulses for home use gets a boost if there is larger depreciation in the exchange rate. This observation can have important significance because it indicates that in spite of chronic deficiency of pulses in India, its domestic production can be enhanced to some extent through price incentives (Statements 1 and 5).[57]

For major agro-exports like sugar and tobacco and tobacco products, larger exchange rate depreciations are conducive for the growth of domestic production for home use. For both industries, India's openness is generally higher than that at the aggregate level. Therefore, in the presence of increasing returns to scale, an exchange rate depreciation is likely to give a substantial positive inducement to the domestic production of these products for home use.

The results of the study show that in line with the impacts at the aggregate level, for wood and paper products and drugs and medicines, the impacts of larger depreciation on domestic productions for home use are positive. It appears that a change in the relative prices of imports and exports following a currency depreciation would allow a significant amount of import substitution

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and there may exist considerable increasing returns to scale in these industries. These two factors may boost the rate of growth of domestic production in the case of exchange rate depreciation.

Simulated impact of a currency devaluation on the growth of the quantum and prices of exports and imports at the overall and sectoral levels are in the same direction as economic theories suggest. Exchange rate depreciation is likely to increase the prices of both exportable and importable in terms of domestic currency and this can explain the observed positive association between exchange rate depreciation and domestic inflation.

An exchange rate devaluation increases the relative prices of tradable *vis-a-vis* non-tradable and therefore it would shift labour force from the production of non-tradable to the tradable sector. The results show that while this is likely to boost India's GDP, its impact on overall employment growth rates is not definite.

The study also shows that larger devaluation may result in larger employment growth in many sectors including pulses, cotton, ready-made garments and miscellaneous textiles sector. In all these sectors growth of domestic output is likely to be induced by a larger devaluation. As the employment elasticities of these sectors are positive, this can enhance growth of employment as well. However, for certain segments of the textiles sector,[58] the observed negative employment elasticities at the base period seem to have influenced the outcome of a fall in employment in face of a large exchange rate depreciation.

3.5   Taxation of Exports and Imports

For analysing the impact of changes in export and import tariff equivalents on output, foreign trade, prices and employment in the post-Uruguay Round period, the study illustrates three scenarios. In all of these scenarios change in exchange rate and openness

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remains the same. However, in the first case export-import tariff equivalents decreases by 25 per cent over the base level, in the second case these remain unchanged at the base level change and still in the third they increase by 25 per cent over the base level.

Table 6 indicates that higher levels of export and import tax equivalents are likely to provide greater inducement to India's GNP. However, rise in the quantum of exports, prices of both exports and imports and trade surplus is likely to be higher if the changes in the tariff equivalents are maintained at their base period rates. Further, there is no definite relation between the quantum and prices of domestic production for home use, import quantum and employment with changes in export-import tariff equivalents. Subsequent discussions show that though many of the impacts are not definite at the aggregate level, they are much clearer at the sectoral levels.

Table 6

Impact of the Uruguay Round with Variations in Export and Import Tariff Equivalent

(per cent)

Variable	Impact Under		
	25 % Decrease	Unchanged	25 % Increase
Change in Quantum			
GDP	1.37	1.39	1.40
Domestic Output for Home Use	1.10	1.05	1.13
Export	3.66	3.89	3.54
Import	1.14	0.95	0.99
Change in Price			
Domestic	1.89	1.92	1.87
Export	-0.32	1.04	-1.32
Import	-0.13	1.29	-1.18
Change in Employment	1.20	1.19	1.20
Trade Balance as Percentage of GDP	0.12	0.18	0.11

Note : Growth rates are annualised percentage changes.

In India, since exports are not generally taxed,[59] an increase in taxes on the flows of foreign trade means a rise in import taxes alone. Higher import tariffs increase the prices of importable and thereby enhance the scope for additional import substitution and in line with this expectation, the rise in the import tax would induce increases in domestic production for home use. The imposition of larger impediments to the trade flows of most of the textile products generally have a positive impact on the growth rate of domestic production for home use. However, it could be stated that an increase in tax on imports and exports[60] of textile products and therefore a reduction of profitability of exports and imports of these products would prove to be an incentive for diverting some proportion of production for domestic use.

It has been pointed out earlier that most of India's exports do not attract customs tax. However, three issues in this context require mention. First, there are various NTBs and non-border interventions of the Government[61] which affect prices and thereby the profitability of exports. Secondly, many Indian exports are intensive in imports.[62] And thirdly, there are often parallel exports and imports in the same broad category.[63] These factors are likely to act differently when levels of export-import taxation change.[64] The results of the study show that at the aggregate level, exporters would react positively to a stable commercial policy rather than to frequent policy changes. However, unlike exchange rate movements, commercial policy of India is amenable to sector-wise fine-tuning[65] and could affect exports with changes in taxes on exports and imports.

The effect of import taxation on the growth rate of imports would depend on the nature of imports. If imports are relatively price inelastic[66] then an increase in import tax may not decrease the growth of imports significantly. At the overall level, the study shows that there is no definite relationship between import growth and taxation of imports.

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The impact of change in the rates of export-import tax on the growth rates of exports and imports are, to some extent, sector-specific. In the case of exports, an increase in tax equivalent on the flow of foreign trade boosts growth of cotton, beverages, ready-made garments, wood and paper products and drugs and medicines (Statements 1 and 2). Any increase in taxation on cross-border movement of these products, as has been explained before, would mostly mean increases in import duties on these products. If the import demands in India for these products are not perfectly price inelastic then there would be some import substitution for these products. On the other hand, if there are increasing returns to scale in these industries then it would make the exportable cheaper and thereby provide effective inducement to exports.

Imports of wheat, sugar, woolen textiles, art silk, synthetic fibre, textiles and the residual items get boosted by increase in taxes on the external trade flows of these products. This result is somewhat counterintuitive as with positive price elasticity of imports, any rise in import tax and the consequent increase in import prices would result in a fall in the quantum of imports. However, two issues in this context need to be noted. First, India is a net importer of these products and secondly, an increase in the tax on exports and imports of these products would mean an equiproportional increase in taxes across the board as in the scheme of this study increase in export-import tax connotes an accross-the-board rise in taxes by a fixed proportion of their respective base levels. It is possible that increases in tax on trade flows in respect of these goods results in a decline in relative prices of these commodities *vis-a-vis* their substitutes and could prompt a rise in imports of these commodities notwithstanding the increase in their import tax.

The observation that favourable trade balances are associated with unchanged tax structure may be interpreted as risk aversion on

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the part of Indian exporters and importers. It may be mentioned that the base period for the study, i.e. 1988-89 to 1990-91 represents pre-reform years when Government effected frequent changes in export-import taxes and other policies on impediments to foreign trade. This may perhaps explain the risk averse type of response on the part of Indian exporters and importers.

The lack of definite impact of taxes on foreign trade on the domestic prices reflected in the results could be because of several factors. First, the share of foreign trade in the total GDP is quite low in India. Therefore, a change in export-import prices through changes in the tax equivalents may not result in a substantial change in domestic prices. Secondly, since changes in taxes used by the study are generally low, it is possible that the agents involved in foreign trade may not pass on the effects of tax changes to the consumers.

An increase in tax equivalent on exports and imports increases the export prices of cotton, beverages, tobacco, cotton textiles, ready-made garments, wood and paper products and drugs and medicines. Import prices of all the sectors with a positive import during the base year except for wheat, woollen textiles, art silk, synthetic fibre, etc. textiles and the residual sector increase with the increase in taxation on the flows of foreign trade (Statements 1 and 2). These results imply that increase in taxation of these exports and imports are passed on to the users, at least partially.

Increased taxes on trade flows also do not have a definite impact on the growth of domestic employment. This in some sense is a reflection of the composition of India's import basket. A large part of India's imports consists of commodities for which there is relatively less scope for efficient and viable substitution.[67] Moreover, many of India's imports are highly capital intensive which even when produced domestically, may have low employment generating potential.

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Though the impact of an increase in taxation of exports and imports on the growth of employment is not definite at the aggregate level, the same is positive for a large number of sectors. These include, among others, paddy, wheat, sugar, beverages and art silk and synthetic textiles, etc. Most of these products have very low import intensity in India. However, an increase in taxes on imports of these products[68] tends to increase the import prices, prompting a rise in domestic production and inducing expansion in employment in these sectors.

4. Conclusions and Policy Implications

In the background of the far reaching changes initiated by the Uruguay Round agreement and their simulated impact on the Indian economy, the study lists certain policy recommendations which may help to further the interest of the country under the changed situation.

4.1 Level of Openness

The study shows that increased openness of India is generally in the interest of the domestic economy. This would boost the growth rate of India's GDP, domestic output for home use, imports and employment. This, however, would also induce domestic inflation. At the sectoral level, larger opening up is likely to be beneficial for the agriculture and agro-based industries. But probably because of the lack of adequate modernisation, the textile sectors may not fare very well under this changed scenario. However, since these industries would face greater international competition as the MFA gets phased-out, it is very important to enhance efficiency of these industries through large-scale restructuring. It is interesting to note that in spite of strong public criticisms in India against the long transition period that has been granted for the phasing-out of the MFA, it is likely that this period may prove beneficial for India as it gives the Indian textile industry some time to improve upon its efficiency.

The larger inflationary potential of policies with greater openness may be a point of concern especially as it is likely to increase prices of basic food articles significantly. The poorer strata of the population get most severely affected by the increase in prices. This requires thorough revamping of the PDS, whereby the food subsidy is better targeted, so as to provide a safety net to the poorer section of the society which include the urban as well as the rural poor who are the net buyers of food grain.[69]

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The lack of definite response of the Indian exports to larger opening up can be a major area of concern as the country is placing increasing importance on the improvement of external sector performance in boosting the domestic growth rate. Results show that the increases in India's export prices are likely to lag behind that of domestic prices in the post-Uruguay Round period. This would erode export profitability *vis-a-vis* their domestic sale. Therefore, a comprehensive approach towards export promotion along with larger opening up is required for the improvement of India's export growth rate.

4.2   Exchange Rate Movement

Except under a fixed exchange rate regime, movements of exchange rates depend upon a whole gamut of factors including the perception of the Government about the ideal course of exchange rate movement.[70]   Though exchange rate movements are not fully policy induced, Government generally has a level of maneuverability in directing its course. It has generally been observed that appreciation of real exchange rate in the medium to long-run adverse effects on the economy.[71]   It is argued that if the domestic inflation surpasses the global level, depreciation in nominal exchange rate is in the interest of the country.[72]   The study shows that for India[73] larger exchange rate devaluation is favourable for the growth rate of India's GDP, exports and trade balance. However, like larger openness, larger exchange rate devaluation induces larger inflation. In the past, India has shown strong sensitiveness towards an increase in the rate of inflation beyond a certain level.[74]   Therefore, in spite of the growth inducing potential of larger exchange rate depreciation, its higher inflationary nature warrants a cautious approach.

In the absence of a deliberate Government policy to create multiple exchange rates and other market imperfections, exchange rate movements are common for all the sectors. Therefore, though the sectoral impacts of exchange rate movements are often different, it is not amenable to fine tuning at the sectoral level.

4.3 Taxation of Exports and Imports

Increase in taxation on exports and imports, in essence, goes against the principle of the Uruguay Round where the members have made attempts to reduce the average level of the global tariff and NTBs. India, in line with other members, has made definite commitments about binding levels of tariffs. However, these binding levels of tariffs are in most cases higher than the current peak levels in India. Further, there are various schemes in India through which tariff concessions are extended for purposes like export promotion and maintenance of sufficient supply of essential commodities. This further reduces the effective average rate of tariff. Therefore, even after making commitments for substantial tariff reductions during the Uruguay Round,[75] India still has a fair level of autonomy in adjusting the effective rates.

At the aggregate level, increase in export-import taxation is likely to provide a fillip to the growth rate of India's GDP and domestic production for home use. Maintenance of the base year tariff levels is congenial for growth rates of exports, trade balance and employment. Impacts of tariff rate adjustments on other macro variables under study are, however, not definite. The study shows that in the case of food grains and industries like beverages for which domestic prices are generally lower than international prices, decrease in import taxation is in line with the interests of the country. For some segments of the textile sectors, wood and paper products and drugs and medicines maintenance of the current rates or even increase in the tariff rates in the short to medium run may be beneficial

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for the economy. However, since increase in import tariffs exposes a country to the possibility of retaliatory tariff increases by the trade partners[76] steps in the direction of tariff adjustments need to be exercised cautiously. But, as argued before, modifications to effective tariff schedules within the limits of relatively low binding tariff commitments are less likely to attract retaliation.

Any multilateral agreement would involve a *quid pro quo* between the members and therefore the impact of an agreement on an economy would have to be judged in the totality rather than focusing only on a part of it. An examination of the impact of the Uruguay Round on India shows a definite and substantial gain for the country in terms of output, foreign trade and employment. However, if the agreements are implemented globally, it holds the possibility of inducing an inflationary pressure on the Indian economy. Moreover, the relative prices of some of the agricultural and agro-based products could increase considerably following the implementation of the agreement. The Government may, therefore, need to undertake policies that focus on containing price rise. This is particularly required to shield the vulnerable segments of the Indian population.

The present study is one of the earliest attempts in the direction of empirically measuring the impact of the Uruguay Round on the Indian economy and like any other study, the focus of the present study is conditioned by the purpose for which it has been initiated. The principal objective of the study has been to provide a quick measure of the direct impact of the Uruguay Round on the Indian economy. Given this objective as well as the nature of data readily available in the context of the Indian economy, the study could not address certain issues on which further exploration is possible. Some of these issues have been listed below which may provide the subject matter of future research.

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The study has stylised the Indian economy into 16 sectors, out of which 15 sectors are likely to get most affected by the Uruguay Round, while the 16th sector is the residual sector. It is possible to further disaggregate the residual sector to study the impact of the Uruguay Round on the individual sectors falling under it.

The study has followed a static framework whereby the impact of the Uruguay Round has been captured as one-shot change. A dynamic framework has to be built so as to get the time path of the changes. However, such a model requires enormous data back-up but this is one area which needs be pursued as data dissemination improves both in terms of quantity and quality.

Since the focus of the study was to measure the impact of the Uruguay Round alone, the model used by the study does not allow for change in technology. Modelling technological change in a rigorous manner requires a whole range of additional information. But such efforts may need to be encouraged at least for certain sectors.

ENDNOTES

1. The fact that disagreements between the USA and the European Union (EU) on the nature of "Agreements on Agriculture" stalled the conclusion of the Uruguay Round for about two years amply testifies this point.

2. The developing countries played particularly important role in shaping the "Agreement on Agriculture", the "Agreement on Trade in Textiles and Clothing" and the "General Agreement on Trade in Services". The successful role of the Cairns Group during the Uruguay Round showed acumen in economic diplomacy on the part of the developing countries. Cairns Group consisted mostly of developing countries who have a major interest in agricultural exports. These countries allied their common interests with that of the US and during the Uruguay Round negotiations, put up a united front against the protectionist agricultural policies of the economic powers like the EU and Japan. The Cairns Group achieved considerable success in liberalising international trade in agricultural products.

3. For example, the repeal of "Corn Laws" in the UK in 1846 terminated the age old ban on corn imports by the UK.

4. For example, the Cobben-Chevalier Treaty initiated by France in 1860, the Tariff Truce Conferences of 1930 and 1931 and the Reciprocal Trade Agreement programme floated by the USA in 1934. All these conferences and treaties tried to reduce the impediments to international trade and to effect a Most-Favoured Nation (MFN) type of arrangements among the contracting nations.

5. Patrick (1993) claims that the main forces behind the establishment of the GATT were the prevention of further European wars and the control of the spread of Soviet communism.

6. Since its inception, the GATT has reduced average global tariff level to one-eighth of its post World War II level [Kol and Mennes (1990)].

7. This principle ensures that whatever concessions one member grants to another member automatically gets transferred to other members as well.

8. NTBs include para-tariff measures, surcharges, variable levies, anti-dumping and countervailing measures, quantitative measures (like prohibition, quotas, voluntary export restrictions, etc.), import surveillance, advance payment of duties and import deposits, various price control measures, additional customs formalities and other entry control measures, stringent quality control measures, local component requirement, etc.

9. The US in the past and during more recent times Japan and the EU took such steps.

10. As a result of protectionist agricultural policies, price levels for these commodities in Japan and the EU remained in many cases 100 per cent higher than the international prices [Anderson and Hayami(1986)].

11. See, for example, Junichi (1989).

12. See, for example, World Bank (1987), UNCTAD (1993) etc.

13. For discussions on the situation in the US, see de Melo and Tarr (1992).

14. See, for example, Guillochon (1994).

15. In spite of the consensus on strengthening and broadening the multilateral framework, there were long-drawn debates on which sectors should be included within the GATT and the manner in which they should be integrated. For example, during the Uruguay Round many industrialised countries argued that their comparative advantages have shifted from trade in goods to trade in services. They also observed that global protection to intellectual property rights and investment rights were crucial for the future of international trade. However, many developing countries, most notably India and Brazil, strongly felt that GATT was not the appropriate body to encompass such issues. Though they could not stall such moves by the industrialised countries, they were able in some cases to scale down the reach of such provisions for the developing countries.

[16.]Countries do not have the option to accept only some of the multilateral agreements of the Uruguay Round. They, if they wish to be a member of the WTO, have to accept all the multilateral agreements of the Uruguay Round together.

[17.] While product-specific subsidy means subsidies given to the growers of a particular crop e.g. wheat or cotton, non-product-specific subsidies mean are those which are given to the whole of the agricultural sector rather than one particular crop. Examples of non-product-specific subsidies are irrigation subsidy and fertilizer subsidy.

[18.] Market access commitment does not mean that a country has to import a stipulated minimum portion of her domestic consumption. It means that imports up to that amount by the member will attract a relatively lower level of tariff.

[19.] 16 per cent, 25 per cent and 27 per cent in Phase I, II and III, respectively.

[20.] For example, movement of labour, financial services, basic tele-communication services, etc.

[21.] For example, Berne Convention (Paris, 1971) for copyrights, Paris Convention (1967) for patents, etc.

[22.] Generally four years and extendable up to eight years.

[23.] See, Hickman (1973).

[24.] See, Hicks (1976).

[25.] See, Deardroff and Stern (1984).

[26.] See, Goldin et. al. (1993).

[27.] Examination of the impact of various policy changes on the economies of different countries.

[28] See, Deardroff and Stern (1981) and (1986) for the original model.

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[29.] The present study has assumed that the changes in wage rate at the sectoral level follows the same pattern as in the base period.

[30.] This domestic use includes both domestic consumption and investment.

[31.] Residual sector contains a part of agriculture as well.

[32.] Neo-classical theory on factor distribution states that even under imperfect competition in the product market, entrepreneurs employ a particular factor up to the point where the marginal return to the factor equals its value of marginal product.

[33.] Netted for exports and change in stock.

[34.] It has been assumed that the world prices change by the amounts indicated by the studies carried on by the GATT and the OECD.

[35.] That scenario represents the policy situations during 1988-89 to 1990-91.

[36.] This scenario approximately captures the policy situations during 1991-92 to 1993-94.

[37.] It can be seen in the next section that because of small variations in the parametric values in different scenarios the differences in outcomes under alternative scenarios are also generally small.

[38.] This is because apart from tariff rates there are various other factors like cost-price conditions, availability of credit, quality standards, demand and supply elasticities, etc. which determine the *ex post* levels of openness of a country.

[39.] That is, "base scenario" and "modified base scenario".

[40.] This point has been explained in detail in Section 2.

[41.] So far these products remained outside the purview of the GATT. Many countries utilised this exclusion to maintain high domestic prices of these products through

application of NTBs. This was done to provide implicit subsidies to the domestic agriculture. In this background, even a partial opening up of the protected markets is likely to push up world prices for temperate agricultural products.

[42] For example, textile products, beverages and tobacco products.

[43] That is, exchange rate and export and import tariff equivalents.

[44] This may result in improvement in quality through larger export orientation and/ or availability of superior products through imports.

[45] For example, increasing returns to scale.

[46] For example, qualitative difference between domestic production for home use and exports and imports.

[47] Increase in profitability or sales in a market segment can allow a discriminating monopolist to reduce price in another segment of the market.

[48] Say, raw material or capital goods.

[49] There can, of course be other possibilities as well. For example the Indian producer may face an "engineering cost curve" where if he can export more, his ideal plant size becomes such that he operates on the flat portion of the cost curve (i.e. he faces constant marginal cost). Even in that situation, he would produce more for domestic use as the opportunities for exports increase.

[50] Certain categories of exporter, for example, those from Export oriented units, Export Processing Zones are entitled to various benefits if they export a stipulated proportion of their production. Over and above this stipulated minimum they can sell their products to the domestic tariff area (DTA). If the openness of the country increases through rise in export production, the quantity for DTA sell would also increase boosting domestic production for home use.

[51] This is the reason why India's national income becomes much higher if calculated in terms of "purchasing power parity" principle than when it is converted in hard

currency using nominal exchange rates. However, there can be considerable quality differences between the Indian products and their counter parts in the international markets.

[52.] Uniformly at the aggregate as well as disaggregated levels.

[53.] That is, openness and export-import tariff equivalents.

[54.] Economic theory suggests that there can be short-term adverse effects on exports due to currency depreciation as the country gets adjusted to the new situation. But the "J-curve effect" works in the long-run and exports get positively affected by a depreciation.

[55.] As opposed to exports and imports which involve only tradable.

[56.] As discussed before, the impact of a relatively large currency depreciation is, however, positive on the GDP.

[57.] Increase in import tax is expected to be positively related to the growth rate of domestic production as increase in import tax affects the domestic price level positively. But this does not hold true for pulses production in India. The reason for this is that pulses being a necessary commodity for mass consumption, it is imported by Government agencies at concessional or even duty-free rates. Thereby the increase of duty by say 25 per cent of the base level does not affect the domestic price level of the commodity.

[58.] For example, woolen textiles, jute, hemp etc. textiles.

[59.] Except for certain exports like tobacco and tobacco products most of the exports are exempted from customs tax. In fact, to facilitate exports, Government of India, in many cases, permits with respect of a number of export items duty draw backs to neutralise the impact of internal taxation on those items.

[60.] Exports of some of the textile products attract cess and duties.

[61.] For example, procurement of food grains, minimum export price for various products, etc.

[62.] For example, gems and jewellery. Many other exports are also crucially dependent on imported capital goods and raw materials.

[63.] These commodities include agricultural products like rice, textile products, drugs and medicines, etc. This form of trade whereby the same broad category of commodities are both exported and imported simultaneously among the countries is generally referred to as intra-industry trade.

[64.] For example, while an increase in import tax on an export competing import would boost the production of that commodity, an increase in tax on imported capital goods or raw materials required for export production would affect exports adversely.

[65.] That is, import tax in one sector can be increased while that of other sectors can undergo a decrease.

[66.] For example, essential goods under the conditions of domestic supply shortages.

[67.] This can be due to various reasons like the non-availability of certain ingredients including technology and the small size of domestic markets which do not, in many cases, allow the setting up of a plant of optimum size for certain industries.

[68.] These exports generally do not attract taxes.

[69.] Consumer subsidy through PDS is not under the jurisdiction of the WTO. However, to reduce the burden of food subsidy on Government, PDS can be targeted only to the poorer segment of the population. Some steps in these directions have already been initiated.

[70.] For example, in almost all the countries Central Banks intervene against sharp volatility in the exchange rate market.

[71.] Appreciation of real effective exchange rate makes a country lose its international competitiveness. Possibility of sharp depreciation in face of continued appreciation

in real terms may also result in capital flights. Experience of the South American countries in the part and the recent Asian Crisis is a pointer in this direction.

[72.] See, for example, Cline (1984).

[73.] Where domestic inflation generally surpasses the rates prevailing in the major trade partners.

[74.] Annual average rate of inflation beyond the 10 per cent level generally results in strong public reaction in India. This is in sharp contrast to the experience of the many of the developing countries (specially from South America) where annual average inflation often crossed the 100 per cent mark.

[75.] Irrespective of the negotiation in the Uruguay Round, India, under the ongoing structural adjustment programme, effected substantial tariff reductions whereby the pick level declined from 110 per cent in 1992-93 to 40 per cent in 1997-98.

[76.] Impacts of such possible retaliations has not been studied by the present study.

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ANNEXURE - I

An Overview of the Various Rounds of GATT Negotiations

Round	Period	Number of members	Volume of trade covered by the tariff negotiations of the Round (US $ bn.)	Other major features of the Round
Havana Round	1947	23	10	Formation of the principles of the GATT.
Annecy Round	1949	33	–	Formation of the principles of the GATT.
Torquay Round	1950-51	38	–	Standardisation of the national tariff schedules of the individual members for effective and significant tariff negotiations through the GATT mechanism.
Geneva Round	1955-56	26	2.5	(i) The US took the central stage of the negotiations. (ii) The GATT principle of commodity-by-commodity tariff negotiations came under sharp criticism and many members, particularly the low-tariff countries of Europe, demanded across the board tariff deductions. (iii) Dissatisfied with the working of the GATT, some members left the Organisation.

An Overview of the Various Rounds of GATT Negotiations

Round	Period	Number of members	Volume of trade covered by the tariff negotiations of the Round (US $ bn.)	Other major features of the Round
Dillion Round	1960-62	38	5	Significant tariff negotiations took place between the EEC and the UK and the EEC and the US.
Kennedy Round	1964-67	50	40	(i) Two Important steps were taken in the context of non-tariff barriers (pricing system of the chemicals and anti-dumping code). (ii) Certain pricing norms for agricultural products were fixed and some concessions in the context of trade in agricultural products were exchanged.
Tokyo Round	1973-79	99	300	(i) Developing countries got entitled to special and differential treatment on non-reciprocal basis. (ii) Various agreements were struck on a large range of non-tariff.

An Overview of the Various Rounds of GATT Negotiations

Round	Period	Number of members	Volume of trade covered by the tariff negotiations of the Round (US $ bn.)	Other major features of the Round
Tokyo Round				barriers (e.g. subsidies and countervailing duties, technical barriers to trade, import licensing procedures, government procurement, customs valuation, etc.). (iii) A large part of the trade in tropical agricultural products came under the purview of the GATT
Uruguay Round	1986-93	105 *	464@	(i) World Trade Organisation (WTO) replaced GATT as a permanent multilateral trade organisation. (ii) Trade Related Investment Measures (TRIMs), Trade Related Intellectual

An Overview of the Various Rounds of GATT Negotiations

Round	Period	Number of members	Volume of trade covered by the tariff negotiations of the Round (US $ bn.)	Other major features of the Round
Uruguay Round contd..				Property Rights (TRIPs) and trade in services entered in to the purview of GATT for the first time. (iii) The major portion of the trade in agricultural products and related domestic policies came under the jurisdiction of the GATT. (iv) Trade in textiles and clothing would be phased-out from the Multi-fibre Arrangement (MFA), a bilateral quota-based system, would be integrated with the WTO. (v) Various agreements have been struck in the context of a large range of non-tariff barriers.

Note : * - In the beginning of the Round.

@ - Cover only the imports by the developed countries.

ANNEXURE -II
The List of the Agreements/Decisions/
Declarations of the Uruguay Round

I   Final Act

II   **Agreement Establishing the Multilateral Trade Organization**

Annex 1A : Agreement on Trade in Goods

1   General Agreement on Tariffs and Trade 1994
    (a)   Understanding on Interpretation of Article II:1(b)
    (b)   Understanding on Interpretation of Article XVII
    (c)   Understanding on Balance-of-Payment Provisions
    (d)   Understanding on Interpretation of Article XXIV
    (e)   Understanding on Interpretation of Article XXV
    (f)   Understanding on Interpretation of Article XXVIII
    (g)   Understanding on Interpretation of Article XXXV

2   Uruguay Round Protocol GATT 1994
3   Agreement on Agriculture
4   Agreement on Sanitary and Phytosanitary Measures
5   Agreement on Textiles and Clothing
6   Agreement on Technical Barriers to Trade
7   Agreement on Trade-Related Investment Measures
8   Agreement on Implementation of Article VI
9   Agreement on Implementation of Article VII
10   Agreement on Preshipment Inspection
11   Agreement on Rules of Origin
12   Agreement on Import Licensing Procedures
13   Agreement on Subsidies and Countervailing Measures
14   Agreement on Safeguards

Annex 1B : General Agreement on Trade in Services and Annexes

Annex 1C : Agreement on Trade-Related Aspects of Intellectual Property Rights, Including Trade in Counterfeit Goods

III Ministerial Decisions and Declarations

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7 General Agreement on Trade in Services :

(a) Decision on Institutional Arrangements for General Agreement on trade in Services

(b) Decision on Certain Dispute Settlement Procedures for the General Agreement on Trade in Services

(c) Decision on Paragraph (b) of Article XIV

(d) Decision on Negotiations on Basic Telecommunications

(e) Understanding on Commitments on Financial Services

(f) Decision on Financial Services

(g) Decision concerning Professional Services

(h) Decisions on Movement of Natural Persons

8 Decision on Implementation of Article XXIV:2 of the Agreement on Government Procurement

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Annexure - III
Statement -1 : Impact of the Uruguay Round under the Base Scenario

(Per cent)

Sector	Changes In Quantum			Changes in Prices			Changes in Employ-ment
	Domestic Output for home use	Export	Import	Domestic	Export	Import	
Paddy	1.18	0.18	3.27	1.26	-1.43	0.48	1.11
Wheat	1.07	19.16	2.14	1.50	0.87	0.76	1.05
Pulses	1.80	0.00	1.79	0.73	0.00	2.03	1.88
Cotton	1.10	20.26	0.00	1.45	2.17	0.00	1.39
Sugar	2.24	4.66	2.23	-0.25	-2.88	4.80	0.13
Beverages	1.74	2.83	1.65	0.80	0.93	0.93	0.51
Tobacco & Tobacco Products	1.53	1.75	1.53	1.01	1.78	1.78	0.45
Cotton Textiles	1.48	1.75	1.49	2.88	1.39	1.59	-0.03
Woolen Textiles	1.11	0.73	4.04	1.68	-2.06	-2.06	-1.39
Art Silk & Synthetic Fibre TextilesJute,	2.92	6.26	1.80	-0.62	0.79	0.79	0.40
Jute,Hemp & Mesta Textiles	2.37	1.41	0.00	-11.80	0.45	0.00	-0.03

Statement -1 : Impact of the Uruguay Round under the Base Scenario

(Per cent)

Sector	Changes In Quantum			Changes in Prices			Changes in Employ-ment
	Domestic Output for home use	Export	Import	Domestic	Export	Import	
Ready- made Garment & Made-up Textiles	2.27	0.13	0.00	0.66	1.92	0.00	1.41
Miscellan-eous Textiles	3.77	1.41	0.00	-0.66	0.02	0.00	1.36
Wood, wood products, furniture, paper& allied products	1.71	0.98	1.68	9.57	1.86	1.86	0.06
Drugs & medicines	3.65	-2.52	-0.62	1.91	3.22	3.22	-0.01
Residual	0.58	3.52	2.63	2.31	-2.05	-2.43	0.04
Overall Economy*	1.40	3.59	1.14	1.96	-0.81	-0.64	1.22

* In case of over all economy, domestic output for home use refers to gross national product at constant prices.

Note : Percentage changes are projected annualised impact of the Uruguay Round on the Indian economy. Macro variables are likely to change at these rates between 1995 and 2004.

Statement -2 : Impact of the Uruguay Round under the Modified Base Scenario

(Per cent)

Sector	Changes In Quantum			Changes in Prices			Changes in Employ-ment
	Domestic Output for home use	Export	Import	Domestic	Export	Import	
Paddy	1.17	0.28	3.48	1.27	-1.02	0.39	1.11
Wheat	1.07	19.18	1.55	1.51	1.27	1.20	1.05
Pulses	1.80	0.00	1.79	0.73	0.00	1.96	1.88
Cotton	1.10	20.23	0.00	1.53	1.90	0.00	1.39
Sugar	2.21	5.01	2.20	-0.19	-1.56	4.09	0.12
Beverages	1.72	2.75	1.70	0.82	0.85	0.85	0.50
Tobacco & Tobacco Products	1.53	1.75	1.53	1.01	1.64	1.64	0.45
Cotton Textiles	1.48	1.75	1.49	2.87	1.30	1.46	-0.03
Woolen Textiles	1.09	1.42	3.57	1.75	-1.23	-1.23	-1.39
Art Silk & Synthetic Fibre TextilesJute,	2.88	6.25	1.75	-0.58	0.85	0.85	0.39
Jute,Hemp & Mesta Textiles	2.36	1.42	0.00	-11.69	0.60	0.00	-0.03

Statement -2 : Impact of the Uruguay Round under the Modified Base Scenario

(Per cent)

Sector	Changes In Quantum			Changes in Prices			Changes in Employ-ment
	Domestic Output for home use	Export	Import	Domestic	Export	Import	
Ready- made Garment & Made-up Textiles	2.26	-0.01	0.00	0.66	1.70	0.00	1.39
Miscella-neous	3.76	1.52	0.00	-0.67	0.28	0.00	1.35
Textiles Wood,wood products, furniture, paper&allied products	1.71	0.97	1.75	9.58	1.70	1.70	0.06
Drugs & medicines	3.48	-3.04	-0.58	1.85	3.08	3.08	-0.01
Residual	0.56	3.66	2.30	2.32	-1.22	-1.48	0.04
Overall Economy*	1.38	3.65	1.18	1.97	-0.32	-0.13	1.21

* In case of over all economy, domestic output for home use refers to gross national product at constant prices.

Note : Percentage changes are projected annualised impact of the Uruguay Round on the Indian economy. Macro variables are likely to change at these rates between 1995 and 2004.

Statement -3 : Impact of the Uruguay Round under the Scenario of Ten per cent Increase in Trade Share to Domestic Production over the Base Level

(Per cent)

Sector	Changes In Quantum			Changes in Prices			Changes in Employ-ment
	Domestic Output for home use	Export	Import	Domestic	Export	Import	
Paddy	1.19	0.18	3.36	1.30	-1.43	0.48	1.12
Wheat	1.08	19.16	2.20	1.54	0.87	0.76	1.06
Pulses	1.80	0.00	1.79	0.77	0.00	2.03	1.88
Cotton	1.17	20.26	0.00	1.65	2.17	0.00	1.51
Sugar	2.26	4.66	2.26	-0.21	-2.88	4.80	0.13
Beverages	1.76	2.83	1.69	0.83	0.93	0.93	0.51
Tobacco & Tobacco	1.53	1.75	1.53	1.05	1.78	1.78	0.45
Products							
Cotton	1.48	1.75	1.49	3.09	1.39	1.59	-0.03
Textiles							
Woolen	1.12	0.75	4.04	1.67	-2.06	-2.06	-1.41
Textiles							
Art Silk & Synthetic Fibre TextilesJute,	2.93	6.24	1.85	-0.59	0.79	0.79	0.40
Jute,Hemp & Mesta Textiles	2.39	1.41	0.00	-11.40	0.45	0.00	-0.03

Statement -3 : Impact of the Uruguay Round under the Scenario of Ten per cent Increase in Trade Share to Domestic Production over the Base Level

(Per cent)

Sector	Changes In Quantum			Changes in Prices			Changes in Employ-ment
	Domestic Output for home use	Export	Import	Domestic	Export	Import	
Ready- made Garment & Made-up Textiles	2.26	0.11	0.00	0.68	1.92	0.00	1.38
Miscellan-eous Textiles	3.78	1.41	0.00	-0.65	0.02	0.00	1.36
Wood, wood products, furniture, paper& allied products	1.72	0.98	1.67	10.08	1.86	1.86	0.06
Drugs & medicines	3.72	-2.59	-0.59	1.99	3.22	3.22	-0.01
Residual	0.60	3.52	2.68	2.37	-2.05	-2.43	0.04
Overall Economy*	1.41	3.59	1.18	2.05	-0.81	-0.64	1.23

* In case of over all economy, domestic output for home use refers to gross national product at constant prices.

Note : Percentage changes are projected annualised impact of the Uruguay Round on the Indian economy. Macro variables are likely to change at these rates between 1995 and 2004.

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Statement -4 : Impact of the Uruguay Round under Scenario of Ten per cent Decrease in Trade Share to Domestic Production over the Base Level

(Per cent)

Sector	Changes In Quantum			Changes in Prices			Changes in Employ-ment
	Domestic Output for home use	Export	Import	Domestic	Export	Import	
Paddy	1.16	0.18	3.17	1.23	-1.43	0.48	1.11
Wheat	1.06	19.17	2.07	1.46	0.87	0.76	1.04
Pulses	1.80	0.00	1.79	0.69	0.00	2.03	1.88
Cotton	1.03	20.26	0.00	1.25	2.17	0.00	1.27
Sugar	2.21	4.65	2.21	-0.29	-2.88	4.80	0.12
Beverages	1.73	2.83	1.60	0.77	0.93	0.93	0.50
Tobacco & Tobacco Products	1.53	1.75	1.53	0.96	1.78	1.78	0.45
Cotton Textiles	1.48	1.75	1.49	2.66	1.39	1.59	-0.03
Woolen Textiles	1.10	0.72	4.03	1.68	-2.06	-2.06	-1.38
Art Silk & Synthetic Fibre TextilesJute	2.90	6.28	1.76	-0.66	0.79	0.79	0. 39
Jute,Hemp & Mesta Textiles	2.35	1.41	0.00	-12.23	0.45	0.00	-0.03

Statement -4 : Impact of the Uruguay Round under Scenario of Ten per cent Decrease in Trade Share to Domestic Production over the Base Level

(Per cent)

Sector	Changes In Quantum			Changes in Prices			Changes in Employ-ment
	Domestic Output for home use	Export	Import	Domestic	Export	Import	
Ready- made Garment & Made-up Textiles	2.27	0.15	0.00	0.63	1.92	0.00	1.44
Miscellane-ous Textiles	3.77	1.42	0.00	-0.68	0.02	0.00	1.36
Wood, wood products, furniture, paper& allied products	1.70	0.98	1.68	9.05	1.86	1.86	0.06
Drugs & medicines	3.56	-2.43	-0.66	1.83	3.22	3.22	-0.01
Residual	0.55	3.52	2.58	2.24	-2.05	-2.43	0.04
Overall Economy*	1.38	3.60	1.10	1.88	-0.81	-0.64	1.20

* In case of over all economy, domestic output for home use refers to gross national product at constant prices.

Note : Percentage changes are projected annualised impact of the Uruguay Round on the Indian economy. Macro variables are likely to change at these rates between 1995 and 2004.

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Statement -5 : Impact of the Uruguay Round under Scenario of Five per cent Depreciation in Exchange Rate

(Per cent)

Sector	Changes In Quantum			Changes in Prices			Changes in Employ-ment
	Domestic Output for home use	Export	Import	Domestic	Export	Import	
Paddy	1.18	0.04	4.30	1.25	-2.02	-0.01	1.11
Wheat	1.07	19.15	2.73	1.49	0.40	0.28	1.06
Pulses	1.80	0.00	1.80	0.74	0.00	1.61	1.88
Cotton	1.09	20.23	0.00	1.39	1.75	0.00	1.38
Sugar	2.26	4.51	2.25	-0.29	-3.55	4.46	0.13
Beverages	1.76	2.61	1.98	0.77	0.46	0.46	0.51
Tobacco & Tobacco Products	1.53	1.75	1.53	1.00	1.34	1.34	0.45
Cotton Textiles	1.48	1.75	1.49	2.86	0.94	1.15	-0.03
Woolen Textiles	1.11	0.24	4.33	1.61	-2.68	-2.68	-1.38
Art Silk & Synthetic Fibre TextilesJute,	2.93	5.95	2.18	-0.68	0.32	0.32	0 . 4 0
Jute,Hemp & Mesta Textiles	2.37	1.34	0.00	-12.07	-0.04	-0.04	- 0 . 0 3
Ready- made Garment & Made-up Textiles	2.27	-0.11	0.00	0.64	1.49	1.49	1.39

Statement -5 : Impact of thé Uruguay Round under Scenario of Five per cent Depreciation in Exchange Rate

(Per cent)

Sector	Changes In Quantum			Changes in Prices			Changes in Employ-ment
	Domestic Output for home use	Export	Import	Domestic	Export	Import	
Miscellan-eous Textiles	3.78	1.21	0.00	-0.70	-0.49	-0.49	1.36
Wood, wood products, furniture, paper& allied products	1.71	0.97	1.61	9.52	1.42	1.42	0.06
Drugs & medicines	3.38	-3.45	-0.68	1.65	2.84	2.84	-0.01
Residual	0.59	3.53	2.83	2.29	-2.67	-2.67	0.04
Overall Economy*	1.37	3.47	1.26	1.94	-1.36	-1.36	1.22

* In case of over all economy, domestic output for home use refers to gross national product at constant prices.

Note: Percentage changes are projected annualised impact of the Uruguay Round on the Indian economy. Macro variables are likely to change at these rates between 1995 and 2004.

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