BRIEFING PAPER

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New Insights into the Impact of the Doha Round on the Indian Economy

Results of a Recent CUTS Study

Negotiators from developing countries at the WTO are often hampered by the lack of rigorous research inputs, incorporating domestic economic realities in adequate detail, on the impacts of different possible scenarios. They, therefore, suffer from an information deficit or are forced to rely on studies conducted from a developed country perspective that do not sufficiently incorporate economic realities in developing countries.

To remedy this situation for India, CUTS International carried out a study using detailed data on sectoral realities and income flows in the Indian economy to arrive at impacts of possible scenarios emerging from the Doha Round negotiations at the WTO. The study used a dynamic computable general equilibrium (CGE) model which was able to capture the role of interdependencies among various sectors in determining welfare and poverty outcomes and the dynamic nature of such outcomes caused by accumulation of profits and capital.

The study represents a major contribution to the literature on impact analysis of WTO negotiations/agreements as its findings contradict some of the counter intuitive results of a previous widely cited study regarding impacts of possible negotiating outcomes on welfare and poverty in India. One such set of findings is the revealed positive impact of multilateral agricultural trade liberalisation on poverty alleviation and welfare in India and its superiority to a scenario which involves multilateral liberalisation of trade in non-agricultural merchandise or another which combines liberalisation of trade in agricultural and non-agricultural merchandise. Second, it offers an impact analysis of services trade liberalisation, which has generally been avoided by previous studies, on the basis of realistic assumptions.

The scenarios considered by the study are hypothetical in nature but these illustrate the benefits/losses from various types of liberalisation adequately. In doing so, these facilitate the adoption of negotiating stances by Indian negotiators that can be verified to be in the Indian interest. This CUTS study should encourage similar studies with focus on other developing countries which, in turn, would ensure the uniform enhancement of relevant knowledge/awareness of negotiating delegations at the WTO. The resultant increased likelihood of win-win outcomes would generate greater faith in such negotiations as a tool for securing global economic progress.

Introduction

The Doha Development Round (DDR) of trade negotiations began in November 2001, committing all member countries in the WTO to negotiations for opening their agricultural and manufacturing markets and services sectors. As the negotiations unfold, and indeed in recent times not with the desired pace and with frequent interruptions, it is crucial for all the participating members to quantitatively evaluate the impact of the possible outcomes on their economies.

Ideally, insights gained from such prior evaluations must serve as inputs for framing the negotiating position of each member country so that outcomes correspond to a win-win situation for all sides. Over time, the use of such detailed and accurate inputs by all countries will ensure that negotiations would be conducted with more faith in their ability to benefit all affected parties.

Such insights are especially important for Indian negotiators, given that the country is on a fast growth track and yet continues to be characterised by a high incidence of poverty. Derailment from this track or an adverse impact on poverty alleviation through sub-optimal multilateral trade agreements is something that the Indian economy can ill afford. Therefore, the growth and poverty implications of alternative negotiating positions need to be worked out in detail so that a correct stance can be adopted at the negotiating table.

It is important, however, to recognise that a quantitative evaluation of outcomes from multilateral trade liberalisation calls for detailed and complex modelling of economic relationships, including interrelationships (input/output flows) amongst traded as well as non-traded sectors within a country's domestic economy. Since these interrelationships are often in the form of backward and forward linkages which play out over a period of time to yield welfare outcomes, their evaluation needs to recognise this underlying dynamism. For example, lower tariffs on textiles produced through labour intensive methods, leading to their enhanced import and a shrinkage of domestic output, will adversely affect employment (and probably enhance poverty) and lead to an increase in supply of labour to other sectors, albeit with a time lag. The subsequent decline in labour costs would in due course lead to lower prices for other commodities. This, in turn, has implications for consumer welfare, but to different extents for different occupational categories.

A majority of developing countries lack adequate systems for data collection and reporting which hamper their ability to carry out such impact analyses of liberalisation scenarios. As a result, trade negotiators from these countries often have incomplete or inexact knowledge of the possible implications of alternative negotiation outcomes for development and poverty in their own country. Such negotiators often have to rely on developed country exposition of the impacts of such scenarios which do not incorporate nuances regarding the economic realities in their own countries.

In India, while limitations do exist in regard to carrying out such impact analyses, the available data makes these exercises possible though some assumptions have to be made about consistency of different data sources.

With the objective of providing Indian negotiators with pointers on the domestic welfare and poverty impact of possible multilateral agreements reached through the Doha Round through rigorous quantitative analysis, CUTS conducted a research project entitled *'Doha Round Impacts on India: A Study in a Sequential Dynamic CGE Framework'*. The research involved use of a dynamic CGE model.

Such a model has several distinctive features which makes it an ideal tool for analysing the mentioned impacts. First, it is based on the concept of general equilibrium, i.e. the analysis of a state in which markets are simultaneously cleared (supply is equated to demand) in all sectors of the economy. This implies that such a model actively takes into account the interrelationships among sectors in an economy. It is also based on the realistic assumption that transactions take place when the plans of suppliers and buyers match. Second, the model itself is dynamic in nature, enabling us to understand how the equilibrium characterising the economy changes over time through accumulation of capital and profits. Third, since convergence towards general (economy wide) equilibrium is a complex iterative process which cannot be tracked by the human brain, a computer software package is used to apply this model for working out final economic outcomes in terms of quantities produced and sold, prices, welfare etc. In other words, conclusions arrived at through this model are beyond the processing capacity of the human brain and, therefore, not intuitively obvious.

An added advantage is the possible use of this model for studying and comparing multiple scenarios. The various possible scenarios in regard to multilateral liberalisation emerging from the DDR that are envisaged in this study are as follows:

- Multilateral liberalisation of agriculture with developing and developed countries reducing their tariffs to different extents, removal of export subsidies and reduction of domestic subsidies
- Similar tariff liberalisation in manufacturing
- Simultaneous liberalisation of both sectors in the manner mentioned above
- Liberalisation of service sector trade

The model is used to deduce the quantitative effects of these scenarios on incomes and incidence of poverty across occupational categories and sectors. The study yields certain nuanced results which throw light on the benefits of participation in the DDR for India.

While impact analyses of multilateral liberalisation scenarios have been carried out in the past, their lack of attention to detail regarding economic reality in developing countries implies that these outcomes are open to doubt and require verification through models that build in such detail.

For example, consider the counterintuitive result of the study commissioned by *Carnegie Endowment for International Peace* and authored by Sandra Polanski entitled '*Winners and Losers: Impact of the Doha Round on Developing Countries'* that agricultural trade liberalisation is not in the interest of developing countries. This finding is counter intuitive as multilateral liberalisation of agricultural trade would imply lower prices of food and other essential items of consumption. This, in turn, should have a significant positive impact on a majority of consumers in the developing world, who still belong to low income brackets and thus necessarily allocate a large portion of their total expenditure to consumption of such items. The results of the study by CUTS, which incorporates considerably greater detail in regard to the Indian economy, show that this finding is not correct and developing countries indeed have strong offensive interests in regard to multilateral liberalisation of agricultural sectors.

This paper presents the results of this project in a simplified manner and is structured as follows. It briefly describes the research study carried out under the project and its distinguishing features as well as a note on the relevance of the results obtained from the study; presents the results and concludes.

A Distinctive Study

The analysis of the four mentioned scenarios was carried out using the highly developed computational technique of dynamic general equilibrium modelling explained above. These assumptions underlying the scenarios are given in Box 1.

In the modelling exercise and its subsequent use for generation of results, the researchers made use of the Global Trade Analysis Project (GTAP), which factors in trade relationships among various national economies characterising the world economy. The world prices and quantities emerging out of the GTAP model, under each studied scenario of multilateral liberalisation, were then fed into the dynamic general equilibrium model for India to determine the impact of liberalisation – given the baseline scenario regarding income inflows captured by a Social Accounting Matrix (SAM) updated for the year 2006[1] – on real and nominal incomes, welfare and poverty.

Significantly, the study is much broader in scope than similar quantitative studies which in any case are a rare breed. The study has managed to not only incorporate the analysis of services trade liberalisation which is often left out of quantitative exercises but also generate results for both short and long run impacts. Moreover, it decomposes the impact under various scenarios on poverty, welfare etc into detailed sector wise components.

It deserves mention that the study is meant to illustrate the net benefits of various types of liberalisation scenarios and not predict the actual outcomes of negotiations. Its utility is in terms of guidance in framing negotiating positions. In addition to its direct use as a tool for *ex-ante* analysis of a range of possible/illustrative outcomes of negotiations, once the DDR is concluded the study also offers enough scope for analysis, without change in the underlying economic model, of the impacts of actual DDR outcomes on poverty, incomes and welfare.

Results

The results for the four alternative scenarios are given sequentially as follows:

(i) Impacts of Agricultural Liberalisation

The results reveal a rise in international prices of agricultural products which is more prominent for paddy and wheat. Such price shocks may be transmitted to the manufacturing and services sectors. Thus, except mineral and miscellaneous chemicals, all sub-sectors in manufacturing

Box 1: Assumptions Underlying Various Doha Scenarios

(i) Agricultural Trade Liberalisation: Developed (developing) countries would cut agricultural tariffs by 36 (24) percent and all countries would reduce domestic agricultural subsidies by 33 percent as well as completely eliminate agricultural export subsidies.

(ii) NAMA Trade Liberalisation: Developed (developing) countries would cut industrial tariffs by 36 (24) percent.

(iii) Full Doha Scenario: Developed (developing) countries would cut agricultural and industrial tariffs by 36 (24) percent and reduce domestic agricultural subsidies by 33 percent as well as completely eliminate agricultural export subsidies.

(iv) Services Trade Liberalisation: Five major service sectors (those which are characterised by imports of services) are assumed to have a tariff equivalent protection equal to the average tariff rate on the manufacturing and agricultural sectors; it is also assumed that these would be fully removed through the Doha negotiations and there would be a 10 percent rise in foreign direct investment (FDI) coming into these service sectors.

and services experience some rise in export prices and face a rise in import prices.

Four major agricultural sectors (paddy, wheat, oil seeds and cotton) are expected to expand and these sectors would also attract more investments. In the short run, the highest percentage rise in investment would be observed in the wheat sector followed by the paddy sector.

The impacts on gross domestic product (GDP) and welfare are positive both in the short and long run but small.[2] Similarly, there would be a decline in poverty both in the short and long runs, with the latter effect being more prominent. Skilled and unskilled wage rates would rise, although less so in the long run when capital would be reallocated toward expanding sectors. The rise in unskilled wage rates is somewhat larger, given the expansion of unskilled labour intensive agricultural sectors.

(ii) Impact of NAMA Liberalisation

All industrial commodities experience a fall in world export prices with the highest fall occurring in the machinery sub-sector. Moreover, because of sectoral interlinkages the export prices facing agricultural and services sub-sectors also decline. On the other hand, import prices of all manufacturing commodities decline whereas those of agricultural ones increase.

The simulation results for India suggest a rise in real GDP and fall in aggregate welfare in both short and long runs as factor returns fall more than consumer price indices. All household categories experience a rise in headcount index of poverty in both short and long runs, though long run effects are smaller. Sectors with higher initial tariff rates register larger import growth in the short run as consumers substitute toward goods registering more dramatic declines in prices. In the long run, import volumes grow significantly in all manufacturing sectors leading to real devaluation and increase in exports.

(iii) Impact of Full Doha Scenario

All agricultural product prices rise in the world market under this scenario. Because of the combined effects of agriculture and non-agricultural market access (NAMA) liberalisation, the changes in export prices of manufacturing products are less prominent than those under the NAMA scenario whereas import price changes are more prominent. Real GDP rises in the short as well as long run. In the short run, aggregate welfare declines. However, in the long run the negative effect on welfare appears to be very minimal. Headcount index of poverty rises but in the long run this effect is minimal.

In general, the agricultural, services and a few manufacturing sectors such as textiles are beneficiaries. In contrast, production contracts in most manufacturing sectors. Increased demand from expanding sub-sectors in agriculture and manufacturing leads to expansion in some services sectors. A fall in nominal income as well as real consumption is observed for all households in the short run. However, in the long run, some household categories such as rural agricultural labour and urban self employed experience a rise in real consumption.

(iv) Impact of Services Liberalisation

The results show that the liberalisation in service sectors would lead to a rise in real GDP and aggregate welfare both in the short and long run, with long run impacts being larger than those in the short run. The scenario would entail two opposite effects. First, because of trade liberalisation

Box 2: Key Results for Various Scenarios

Agriculture Liberalisation

- Positive effects on GDP and aggregate welfare
- Rise in skilled and unskilled wage rates resulting in poverty reduction.

NAMA Liberalisation

- Fall in import prices for all manufacturing commodities
- Rise in real GDP, but fall in aggregate welfare in the short run
- Increase in export volumes in the long run

Full Doha Scenario

- Real GDP rises in the short as well as long run.
- Aggregate welfare declines in the short run but recovers in the long run
- Benefits result for key services sectors

Services Liberalisation

- Positive impacts on GDP and aggregate welfare gets stronger in the long run
- Services sectors benefit from increased inflow of FDI, despite intensification of competitive pressures from abroad.
- Poverty reducing effects are stronger in the long run.

domestic services sectors would tend to contract. On the other hand, increased flow of FDI into these sectors would tend to make these expand. The net impact would depend on the relative strength of these two effects. It is revealed that the services sectors under consideration would expand both in the short and long run, which suggests much stronger impact of the second type of effect.

Services trade liberalisation, along with increased flow of foreign investment into the services sectors, would also result in a drop in poverty indices with long run poverty reducing effects being stronger than short run effects. In sum, the scenario would lead to some positive outcomes for the Indian economy.

Conclusion

One of the problems facing the negotiating teams of developing countries at the WTO in the ongoing Doha Round of trade talks is the absence of research inputs for making these teams cognisant of the impacts of alternative scenarios resulting from these negotiations. Such inputs enable negotiating teams to assume optimal stances at the negotiating table and protect the interests of the countries these represent. Their absence would be associated with incomplete and inexact information for negotiators which would affect the overall efficiency of negotiations. Recognising the dearth of rigorous research in this respect and the associated negative implications, CUTS International undertook a research study for analysing the impacts of possible outcomes of the Doha Round on the Indian economy.

The study, which is broad in terms of coverage and at the same employs a very rigorous research methodology, is a landmark work given that comparable research studies which could enable informed decision making for India in the DDR negotiations are scarce or even absent. It makes use of sophisticated economic modelling techniques and applies these to the latest data to provide a quantitative assessment of the impacts of four trade liberalisation scenarios on poverty, welfare and incomes in the Indian economy.

The result shows that agricultural trade liberalisation is superior in the Indian context to the liberalisation of trade in industrial goods with the former scenario leading to rise in GDP and welfare accompanied by a fall in headcount index of poverty in both long and short runs. While services trade liberalisation would also generate positive outcomes for the Indian economy in general, results of the study show that certain sectors may suffer from short term contraction as small and medium firms in these sectors try to adjust to competition from foreign producers.

The study is not only useful for guiding India's participation in the DDR negotiations but would encourage other developing countries to also undertake similar studies so that participation of the developing world in the DDR becomes more productive and promotes their self interest better. In other words, as such studies become more popular the chances of arriving at win-win outcomes through multilateral negotiations would get enhanced. This, in turn, would enhance the faith of developing countries in multilateral negotiations as an instrument for augmenting global economic welfare and thus lead to faster progress in these.

Endnotes

1 Social Accounting Matrices represents flows of all economic transactions that take place between various sectors within an economy.

2 Short run generally refers to a span of one year and conversely long run effects of a change stand for effects which take more than a year to manifest themselves.

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