

TRADE POLICY AND DETERMINANTS OF TRADE IN AGRICULTURE

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Abstract

India has been faithful in meeting the requirements of WTO in terms of the removal of quantitative restrictions on agricultural commodities. With this, India enters into a new regime of agricultural trade policy. Hitherto, trade in agriculture was treated as a residual and the impact of policy change was predictable. But with change in the policies due to external factors, predicting the impact is difficult. In analysing the determinants of trade in agricultural commodities and the impact of policy changes on the commodities liberalised in the early nineties, it is seen that domestic production has been a strong determinant of trade in agriculture. Even after liberalisation, these commodities are more sensitive to domestic supply conditions, rather than to prices which questions the liberalisation in practice.

Introduction

The removal of quantitative restrictions (QRs) on a large set of agricultural commodities to comply with the WTO norms gave a momentum to liberalisation in agricultural trade, which was gradual since the beginning of the reforms period. It is known that agricultural trade in India was treated as a residual in an ex-ante sense and the impact of any policy change was to some extent predictable. But the removal of QRs in recent Exim policies on imports has been mainly to meet the obligations under the WTO. With the sluggish growth in exports and the rising imports, liberalisation and export promotion in agriculture highlighted in the 2002-07 policy were inevitable outcomes. Predicting the impacts of such policy changes in an exact sense becomes tough, especially due to the peculiar nature of the agricultural sector.

The questions raised in this paper are, is liberalisation in agricultural trade complete to the extent required under the WTO in terms of removal of QRs and reduction in tariff rates; are there any provisions to retain or impose such restrictions in future under special and differential treatment to products and to developing countries; and is it possible to see the impact of easing of the licensing procedure in the early or mid-

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nineties on trade in agricultural commodities through identification of determinants of trade in agriculture and examine the behaviour of trade in the liberalisation period.

These issues are addressed, first, by examining the stages and extent of liberalisation in agricultural exports and imports, identified through changes in the licensing system and tariff rates for agricultural sector as a whole and for specific agricultural commodities. It is difficult to separate liberalisation measures having implications on agriculture sector alone. The export promotion and import liberalisation measures in Exim policies especially after 1991 reforms are therefore reviewed. For major agricultural commodities traded in India, the changes in the trade policy and current policy status in terms of licensing are looked at. To examine changes in the tariff rates, the simple average of tariff rates (basic and auxiliary) on agricultural commodities at six-digit commodity level is calculated. In the next section, the impact of policy changes and the determinants of trade in agriculture commodities are analysed. Since there is no sufficient time series available for the post liberalisation period to analyse the impact separately through the analytical models, the trends in the growth rates in trade are compared with the growth in other related variables, keeping in mind the liberalisation period in agriculture. For the commodities, which were liberalised in the early nineties, the impact of policy changes on trade and its impact on domestic prices are examined.

India's Trade Liberalisation Measures: An Overview

The scenario of liberalisation in agricultural trade can be seen under three heads, through the general or agriculture specific export promotion and import liberalisation measures, changes in the licensing of agricultural exports and imports, and reduction in tariff rates on agricultural commodities.

Among the policy measures introduced with or after the new economic reforms, introduction of export promotional schemes like provision of EXIM Scrips in 1991, abolition of cash margins for EOUs in 1992, granting of tax concessions to export houses in 1996-97, setting up of SEZs in 2000, and exchange rate measures like the partial convertibility of the Rupee in 1992-93 and full convertibility in the trade account in 1993-94 are the notable ones to mention. The removal of quantitative restrictions through the licensing procedures on exports and imports and reduction of tariff rates on imports were anyhow done in stages in the exim policies and their amendments. The modifications to the Exim Policy declared by the Ministry of Commerce on April 1999, 2000 and 2001 were very much in tune with the requirements of the WTO panel's ruling about QRs.

For agriculture specifically, some liberalisation attempts were made from early nineties but the policies were more targeted towards the

agricultural sector since last three exim polices. Extension of the Exim Scrip facilities for a number of agricultural commodities in 1991, provision of duty-free licensing scheme for agricultural exporters, granting of EOU status to units in agriculture and allied products in 1992-97 exim policy, decanalisation, shifting of commodities from restricted, prohibited lists to free list at different phases, binding of tariff rates for the WTO, etc are the prominent ones to mention specifically for agricultural commodities. The amendments of the Exim policy made during April 2001 further gave importance to the boosting of agricultural exports. It gave special importance to the agricultural sector through the creation of the Agricultural Export zones wherein the state governments could identify the product-specific zones. The Exim Policy Schemes like the Duty Exemption Scheme and Export Promotion Capital Goods Scheme were being made applicable to the agricultural sector.

The EXIM Policy 2002-07 had much to say for agriculture, especially for the exports. With the sluggish growth in exports and rising imports, liberalisation of agricultural exports was an inevitable outcome. Export restrictions like registration and packaging requirements were removed on butter, pulses, wheat and wheat products, groundnut oil, cashew and coarse grains. Restrictions on export of all cultivated varieties of seed, except jute and onion were also removed. The creation of agricultural export zones which was initiated earlier was modulated and 20 agri-export zones were notified covering many exportable items. For the identified potential sectors, indicative sectorwise strategies were laid down based on the detailed strategy paper by the Export Promotion Councils, Commodity Boards and other Industry associations. The policy empowered the state governments with new schemes like Assistance to States for Infrastructure Development and Exports (ASIDE) and the State Level Export Promotion Committee (SLEPC). *(The detailed list of liberalised trade policy measures from 1991 is given in appendix Table 1).*

Thus, the importance towards agriculture has been increasing in the recent exim polices. The growing concern for infrastructure and the entrusting of powers to the state governments in the decision-making on issues relating to external trade is a positive step towards the development of the agricultural trade sector in India.

Removal of Quantitative Restrictions on Agriculture

The removal of QRs on agricultural commodities as mentioned earlier is done in phases. It was done gradually only on a few commodities to begin with. But it turned out to be obligatory with the WTO panel's ruling that India should remove the QRs before March 2001. From January 1997, India made series of commitments to remove QRs at different time periods but faced many confrontations from the trading partners. Finally, when India lost the case against the US in September 1999, it agreed to phase out the QRs ending March 2001.

The stages in the removal of QRs are examined through reviewing the policy status of commodities in the ITC HS Classification of Exports and Imports of various years, published by the ministry of commerce. The ITC HS classification has four broad lists classified on the basis of the status of licensing of agricultural commodities; the prohibited list, the restricted list, the canalised list and the free list. The changes in the licensing for agricultural commodities from 1995 shows that most of the agricultural commodities were put under the free list in the last three exim policy amendments. The percentage of free items had increased from 22% in 1995-96 to 58% in 2000 and further to 75% in April 2002 (Table 1). In the case of licensing of imports, majority of commodities was freed in the year 2000 and 2001 as per the obligations under the WTO. Other than items like live animals, fish, meat of bovine animals, products of animal origin, live trees and plants which are either prohibited or restricted for health, hygiene or other reasons, most of the agricultural commodities are now freely importable. Thus, India meets the WTO requirement of phasing out of quantitative restrictions on imports other than on some items where the QRs are maintained through prohibitions or restriction as consumer goods for health and hygiene, or food security reasons as allowed in the WTO.

Table 1: Changes in Licensing Structure of Agricultural Commodities (in %)

Year	Free	Prohibited	Restricted	Canalised
1995-96	20	5	65	10
1997-98	27	3	60	10
1998-99	31	3	54	12
2000-01	58	3	37	2
2002-03	75	1	22	2

Note: Commodities at 6-digit level of ITC HS classification of Exports and Imports

Source: Computed from ITC HS Classification of Exports and Imports, (1995, 1997); Goyal, (1998,2000, 2002).

Looking into the changes in policy status in some major traded agricultural commodities, the notable ones are the removal of Qrs on the exports of rice in 1994, decanalisation of sugar and milk in 1991 and 1992. In the later stages, freeing of exports of all edible oilseeds in 1995 and edible oil in 1998 were prominent. But in spite of commodities being in the free lists the authority for the DGFT to impose quantitative restrictions from time to time was persistent on many items till very recently. Some of them are scrapped in the 2002 Exim policy. Export restrictions like registration and packaging requirements are being removed on butter, pulses, wheat and wheat products, groundnut oil, cashew and coarse grains like barley, maize, bajra, ragi and jowar. Restrictions on

export of all cultivated varieties of seed, except jute and onion are removed. To smoothen the procedures, the conditions of registration of contract with APEDA (Agriculture and Processed Food Export Development Authority) for export of non-basmati rice, were also removed. For imports, freeing of edible oils in 1994-95 through decanalising and delicensing was quite prominent. There were some policy changes in pulses, sugar, rubber and cotton in the initial stages. The rest of the commodities was liberalised in the later years, with the removal of QRs under the WTO obligations. (see appendix Tables 2 & 3)

Changes in the Tariff Rates

In the Agreement on Agriculture (AoA) all non-tariff barriers are to be converted into tariffs. These tariffs are then to be reduced by 24 per cent from the base tariff level within 10 years, for developing countries. In addition to this, members are to maintain minimum access quota of 3% of domestic consumption at reduced tariff rates where there will be no tariff binding. Though India did not commit itself to the tariffication programme in agriculture, the reduction in tariffs in agriculture as in other sectors has been a part of the internal reforms programme.

For examining changes in tariffs for the agricultural sector, simple average unweighted tariff for the agricultural sector as a whole covering the first 24 chapters under the ITC HS classification for the years 1986, 1992, 1996, 2000 and 2002 is calculated. The tariff rates under the tariff schedule consists of the basic duty levied under the statutory provisions for the sake of protection of domestic industry, auxiliary duty which was existing till the year 1993 collected for revenue purpose, preferential area duty for preferential areas, the additional duties for offsetting the excise duties levied on similar products produced within the country and the special additional duty equal to the sales tax inside the country. The simple averages of the tariff rates at the 6-digit level are taken into account. Basic and auxiliary duties are considered for the years 1986 and 1992. There were no auxiliary duties for the years 1996, 2000 and 2002. However, a surcharge of 10% of the basic duty was existing in the year 2000.

Table 2 shows that there has been a drastic reduction in the tariff rates for agricultural commodities in the year 1996, which were slightly raised in the year 2000 and again reduced in the year 2002. 1986-88 have been the base years for calculation for the reduction in tariffs after converting the non-tariff barriers into the tariffs to the extent of 24% in 10 years. Looking into the scheduled customs tariffs, the basic and the auxiliary rates have not differed for the years 1986, 1987 and 1988. Hence, the average remains the same for these years. However, considering only the tariff rates, the reduction has been much more than required in the WTO. Taking 1986 as the base, there has been a 22%

reduction taking the year 1992, 77% in 1996, 70% in 2000 and 74% in 2002. There has also been a reduction in the peak tariff for sensitive items. Also, in the process of tariffication, the non-tariff barriers are to be first converted into tariffs and then reduced by 24%. The process of conversion of non-tariff barriers to that of tariffs are to be done through the representative domestic and world price differences. The study conducted earlier by Gulati, et al (1994) shows that the product-specific support calculated through the price differences is negative, hence our reduction in the scheduled tariffs has been much more than required, if India would have committed to the tariffication programme.

In the Uruguay Round, India has agreed to make adjustment in tariff rates for 3373 commodities/ Commodity groups at 6-digit HS level. In the case of agriculture, India committed itself to tariffication of 673 lines under AoA at 6 digit of HS Classification. A large number of committed lines belong to commodity groups like edible vegetables, animal or vegetable fats or oils; meat and edible meat, etc. (Gulati, et al, 1999). The tariff reduction for agriculture products differs in two important ways from tariff reductions on industrial products. Almost 100% of agriculture product tariff lines have been bound as against 83% of industrial tariff lines (Goyal, 1999). Most of the primary products are bound at 100%, processed products at 150% and edible oils at 300% other than soyabean and rapeseed oil, which are bound at 45%. Some of the items like silk and cotton are unbound. Thus in all the cases the existing tariff rates are much lower than bound rates. A study conducted by Gulati, et al (1999) shows that, out of 673 commodities analysed falling under agriculture and allied, taking 1999 MFN tariff rates, the difference between the UR and MFN rate was 50% and above, for 82.6% of commodities numbering 556.

Table 2: Average Tariff on Agricultural Commodities (in %)

Year	1986 Basic + auxiliary duty	1992 Basic + auxiliary duty	1996 Basic duty	2000 Basic + surcharge on basic duty of 10%	2002 Basic duty
Simple average (unweighted)	148.58	114.73	37.2	43.72	37.43
Peak Tariff	150	115	50	38.5	30

Source: Directorate of Publications, Customs and Central Excise, New Delhi (1986, 1992, 1996) Goel Arun (2000, 2002)

- Note:*
- * Tariffs are considered for commodities at 6-digit level
 - * The auxiliary duty was at 50% of the value of the commodity in the years 1986 and 1992.
 - * Auxiliary duty was not existent in the year 1996, 2000 and 2002. There was a surcharge on basic duty for the year 2000 at 10% of the basic duty.

Impact of Policy Changes and the Determinants of Trade in Agriculture

Trade in agriculture in India was under domestic control till very recently. The changes in the policies due to external factors give a structural break to the agricultural trade scenario in India. With this, predicting the impacts of policy change becomes difficult. Here an attempt is made to analyse what factors hitherto determined the trade in agricultural commodities and how trade in agriculture has reacted to some of the policy changes that took place in the early nineties which was not a force due to the WTO requirements.

To examine the determinants of trade and the impact of policy changes on trade in agricultural commodities, it is attempted here to regress a set of variables affecting trade, on exports and imports of agricultural commodities through single linear equations. All the major commodities traded and produced in the country are considered after looking into the commodity compositions of trade, taking the time series from 1970-1999. The policy breaks are represented through a dummy implying the shift of commodities from the restricted to free list in the ITC HS classification of exports and imports. Tariffs are not included in the import equations for the reason that the scheduled rates of tariffs as given in the tariff schedules do not represent the actual tariffs levied due to different exemptions and also due to non-availability of its time series for 30 years considered for estimation.

Along with the policy change, other important variables effecting trade are considered, like the production, or the supply (for commodities where stocks are maintained we add the change in stocks to the production), the relative price (domestic price /world price), and the rest of the world exports to represent the competition from other countries for our exports. For import functions only production/supply and relative prices are included. The policy variable could be considered only for the commodities, which were freed in the early or mid nineties for obtaining sufficient time series after liberalisation like rice, wheat, sugar, sesame seed, and castor oil in the case of exports and sugar, edible oils, cotton lint, and rubber in the case of imports. Among the rest of the commodities, some were liberalised in the late nineties (1999, 2000 and 2001) and some were already under the free list. (results in Tables 3 and 4)

Table 3: Determinants of Exports

Commodities	Constant	Supply	Dp/Wp	RWE	Policy	R ²
Rice	821.99	.056	.161	.043	.743 *	.833
Wheat	2877.94	.865 *	-.359	-.676 *	-.048	.596
Coffee	-155.92	.519 *	-.152	.559	NA	.836
Tea	290.81	-.295	-.010	-.226	NA	.258
Sugar refined	961289	.618 **	-.496	-1.214 *	-.005	.454
Cashew	19676.7	.275	.033	.370	NA	.379
Castor oil	55622.01	.735 *	-.080	-.145	.186 *	.916
Cake of coconuts	21135.4	-.601 *	-.482 *	.201	NA	.529
Groundnuts shelled	-23144.1	-.188	-.394 **	.658 *	NA	.196
Cake of Groundnuts	455292.3	-.097	-.217 **	.703 *	NA	.661
Cake of rapeseed	-167278	.143 *	-.157	-.723 *	NA	.774
Sesame seed	-2431.09	.259 **	-.162	.015	.683 *	.759
Cake of sesame seed	6447.26	.074	-.152	.442	NA	.231
Cake of soyabean	399011.8	1.078 *	NC	-.128	NA	.932

Contd.

Commodities	Constant	Supply	Dp/Wp	RWE	Policy	R ²
Cake of sunflower seed	53678.8	1.123 *	NC	-.691 *	NA	.700
Tobacco leaves	-3737.36	.567	.330**	.026	NA	.298
Cotton lint	95688.64	.240 *	-.144	-.059	NA	.057
Jute	47421.72	-.462 **	-.193	-.157	NA	.395
Onion	63543.4	.244	-.237**	.549	NA	.670
Potato	19584.14	.356	-.327	-.075	NA	.243
Apple	-6952.31	.464 **	.123	.333	NA	.633
Banana	-1422.62	.732	.286**	-.208	NA	.215
Pepper	4611.02	.218	.337**	.299	NA	.331
Ginger	8019.06	-.535	-.158	1.230 **	NA	.445
Rubber	3432.54	.276	.072	-.289	NA	.012
Milk	-1929.12	.581	-.501	.117	.490	.472

Note: Dp/Wp = domestic price by world price, RWE = rest of the world exports

The beta values are standardised betas.

* significant at 1% level, ** significant at 5% level.

Table 4: Determinants of Imports

Commodity	Constant	Supply	Dp/Wp	Policy	R ²
Rice	343.61	-.193	.024	NA	.037
Wheat	1850.90	-.345	.431	NA	.167
Sugar	-411869	-.119	.508 *	.490**	.349
Linseed	2224.13	-.189	.210	NA	.086
Oil of Linseed	-58.51	-.15	.730 *	-.134	.614
Mustard oil	77.02	-.463**	.343 *	.370**	.661
Soya oil	363.31	-1.102*	.127	.708 **	.700
Cotton lint	157312.7	-.334	-.259	.661*	.250
Potato	719.50	-.022	-.196	NA	.042
Jute	2955.07	.000	.209	.807*	.542
Rubber	-26428.6	.455*	.499 *	-.485	.397
Pepper	-1065.50	.754*	-.137	NA	.636
Ginger	-3235.7	.727*	.219 **	NA	.785
Tobacco	-1288.39	.565	.083	NA	.293

Note: Note: Dp/Wp = domestic price by world price,

* significant at 1% level, ** significant at 5% level.

The results show that the variables chosen are not sufficient to explain the determinants of trade for all the commodities. In case of exports there has not been many cases of liberalisation in the early nineties. One major policy break has been in the case of rice, and trade seems to have strongly reacted to the policy change. This has also happened to some extent in the case of castor oil and sesame seed. Though there was some shift in the policies in sugar and wheat, trade has not reacted to it. In most of the other cases where the model has a good R², production explains to a large extent. Price is not significant other than in onion and sugar. Looking into the relative significance, rest of the world exports explains better than production or prices in coffee and groundnuts. These are the commodities where India is a large producer and depends largely on the external markets. For imports, the explanatory capacity of the model is weak for many commodities. In case where the models explain to some extent, supply emerges to be significant again. Relative Price is significant only in the case of linseed and linseed oil.

The major problem that arises in estimating here is that of the structural break in the time series. Since liberalisation has been carried

out in the end of the nineties in many cases we do not obtain sufficient time series for the post liberalisation period to run separate regressions. To overcome this problem and examine the behaviour of trade in the post-liberalisation period, the growth rates in exports, imports and other variables are examined to make a comparison in the trends.

Analysis through the Growth Rates

In examining the compound growth rates, the time series is divided into four periods; 1970-80, 1980-90, 1990-95 and 1995-2000. The period 1995-2000 can be considered as the liberalisation period in agriculture since most of the commodities were freed in this period. We can therefore, also look into the behaviour of trade in agriculture in the liberalisation period (see appendix tables 5,6,7 & 8).

The growth rates are declining in exports of many agricultural commodities and in many cases they are negative in the period 1995-2000, other than in the case of banana, jute, tobacco and milk. Inversely, imports have increased other than in rice, rubber, potato and inseed. The growth rates in exports are compared with the growth in production and the exports of the rest of the world, and in the case of imports to production.

Exported items like castor oil, oil cakes, cotton lint, groundnuts, jute, tobacco, rubber, rice, pepper, wheat and milk are strongly related to the production trends. The exports of these commodities in the period 1995-2000 has moved along with the direction of trends in production. For commodities like cashew, castor oil, coffee, rice, ginger, pepper, sugar and tea the competition from the rest of the world is increasing with an increasing growth in their exports. In the case of exports of rice, castor oil and sesame seed where the policy variable emerged significant in our regression analysis, the growth seem to be declining. In all the cases there has been a complementary decline in the growth of production. In the case of imports there is an increasing growth in almost all the commodities. Cotton, rubber, potato, wheat and oil of linseed are strongly related to the production trends.

If production continues to be a dominant factor influencing the trade in agriculture even in future, then exports of commodities having increasing growth trends like banana, potato, onion, cashew, apple, rubber and tobacco would have better export performance. Of these, other than rubber, the world situation is favourable since the rest of the world export is declining. Also looking into the price advantage we see that in banana, potato, onion and tobacco, India has a larger price advantage (appendix table 9). Similarly, the imports of wheat, sugar, rapeseed oil, soyabean oil, cotton and milk would be on the rising trend since both production and price are not favourable towards these commodities.

Immediate Impact of the Removal of QRs on Agricultural Commodities

For the importables on which the QRs were removed with effect from April 2000 we compare the trade statistics of 2000-01 and 2001-02 provided by the Ministry of Commerce and see if there was any immediate effect of the policy change. Table 5 shows most of the commodities/commodity groups have not reacted to the change in the policy through the removal of QRs. For few commodities like coffee aroma, instant tea, mango squash and processed tomato there has been a minor increase in the imports. Thus, removal of the QRs has so far not had a major impact on India's imports.

Table 5: Import Performance of Items on which QRs were removed w.e.f 31-3-2000

(value in Rs. lakhs)

Commodity	2000-01	2001-02
ANIMAL AND ANIMAL PRODUCTS	19.39	4.57
BULGAR WHEAT	852.56	2041.27
CEREAL PRODUCTS	7580.61	3963.79
CHILLI PICKLES	0	0.29
CHIPS, FRIED	49.05	73.04
COCONUT DESICCATED	0.33	6.58
COFFEE	1082.09	1450.37
COFFEE AROMA	0.63	35.89
FISH AND FISH PRODUCTS	6.75	20.64
HOMOGENISED COMPOSITE FOOD PREPARATIONS	15053.02	19347.03
HOMOGENISED PREPARATIONS	75.76	0.26
HOMOGENISED VGTBLS,PRPD/PRSVD, NT FRZN	2.56	0
INSTANT TEA	4.36	143.29
LICHI	0	0.05
MALTED MILK (INCLUDING POWDER)	13.39	6.36
MANGO SQUASH	1.84	17.97
MILK AND MILK PRODUCTS	701.9	213.04
MUSHROOMS PREPD/PRSVD	0	6.24
OLIVES PRPD/PRSVD, NT FRZN	10.81	4.67
ONION PRPD/PRSVD BY VINEGAR ACETIC ACID	0	0.11
ORANGE SQUASH	0.81	0
OTHR EXTRACTS ESSENCS& CNCNTRTS OF TEA/MATE	2.39	3.8
OTHR ROASTED COFFEE,SUBSTITUTES,EXTRACTS	0	0.35
OTHR VEG & MIXTRS OF VEG, PRPD/PRSVD,FRZN	17.13	9.65
PLUMS AND SLOES , FRESH	0.32	1.01
POMEGRANATES FRESH	91.44	53.85
PRPD FOODS OBTND FRM ROASTD/UNROASTD OR	0.41	5.74

PRPN WTH A BASIS OF EXTRCTS ESSNCS OR	0	26.97
SOFT DRINK CONCENTRATES	122.55	232.79
SPICES AND SPICE PRODUCTS	1442.78	1401.24
SUGAR AND SUGAR PRODUCTS	1333.08	2076.37
TEA AROMA	0	1.87
TOBACCO PRODUCTS	84.05	77.07
TOMATO CHUTNEYS & PASTE	0	5.53

Source: Ministry of Commerce, www.nic.in

Analysis of Prices

In the liberalised trade scenario prices play a significant role. It is hypothesised that trade reacts strongly to the change in prices and vice versa in the liberalised environment. We try testing this for the commodities liberalised in the early or mid-nineties by looking into the trends in their wholesale prices. These wholesale prices are representative wholesale prices from the major producing states of the respective commodities collected from the Agricultural Prices in India published by the Ministry of Agriculture. We see in the graphs given in Fig 1 in the appendix that the domestic prices have not moved away from the time trend with liberalisation thus showing no significant difference in the liberalised period. This would imply that India was prepared to bring about policy changes in those commodities. But with the changes in the policies brought about in the recent exim policies which have been due to external factors, the impact on the prices are to be largely felt.

Conclusion

The removal of quantitative restrictions on agricultural commodities in the last few Exim policies gave a momentum to the liberalisation in agricultural trade, which was gradual since the beginning of the reforms period. The process of easing of licensing on imports and exports is almost complete, leaving aside the restrictions on few commodities due to special reasons. The percentage of free items had increased from 22% in 1995-96 to 58% in 2000 and further to 74% in April 2002. The average tariff in agriculture has slashed from a high level of 137 percent in 1986 to a low level of 38 percent in 2002. However, considering only the tariff rates the reduction has been much more than required in the WTO. In analysing the determinants of trade in agricultural commodities and the impact of policy changes on the commodities liberalised in the early nineties, it is seen that domestic production has been a strong determinant of trade in agriculture. Looking into the behaviour of agricultural trade in the liberalisation period with the analysis of growth rates, we see that even the commodities that are liberalised earlier continue to be more sensitive to domestic supply conditions. The impact of liberalisation on prices, which is expected in a liberalised scenario, is hardly felt.

Appendix

Table 1: Major Trade Policy Announcements since 1990

Year	Changes in Policy
1990-91	a) Extension of REP licenses list to cover items under limited permissible and Canalised list; identification of Export trading houses and provision of additional licenses; introduction of new category of State trading houses for exports with exemplary performances.
1990-91 July August	Introduction of EXIM Scrips to replace REP, abolition of supplementary licenses except in the case of small scale sector; enlarging of the scope of export services, extension of Export Processing Zones (EPZs) and Export Processing Units (EPUs) to several sectors of the economy.
1991-92 exim policy	Abolition of Cash Margin for 100% EOUs and for Units in FTZ/EPZs against imports for own consumption when exports are to GCA.
Dec 1991	Cash Margin in Imports cut to 50%
Feb 1992	All Cash Margins on Imports to higher than Capital goods removed; Change in import licensing by replacing a large part of administrative licensing of imports by import entitlements linked to export earnings. EXIM Scrips were made tradable and premium on the Scrips set by market.
Nov 1992	Actual Users condition removed for EXIM Scrips for permissible non-OGL Capital Goods imports without any value limit.
1992-93	Special Import Licenses granted to select Exporters. Partial Convertibility of the Rupee was announced; Introduction of Liberalised Exchange Rate Management System (LERMS) where exports and recipients of inward remittances were allowed to exchange 60% of foreign exchange at market rate and remaining 40% at administered rate.
1993-94	Full Convertibility of the Rupee on the trade account was announced. Simplification of SIL Scheme.
1995-96	Abolition of Export Taxes and Streamlining of the Export Subsidies.
1996-97	Encouragement to Export Houses and Star Trading Houses by exempting them from paying the Minimum Alternative Tax of the Union Government.
1997-2000	Streamlining of the Export Promotion Capital Goods scheme (EPCG). Value-based advance licensing scheme discontinued, a new simplified passbook scheme introduced. The SIL facility extended to domestic capital goods suppliers. Additional SIL announced for small-scale industries to explore new markets.

April 2000	Setting up of Special Economic Zones treated as being outside the customs territory of the country. SEZ at Piparar (Gujarat) and Tuticorin (Tamil Nadu). Involvement of State Governments in Export Promotion Efforts. Steps towards E-Commerce.
April 2001	Creation of Agricultural Export Zones identified by the state governments Tariff Policy revised. Within the bound rates, the customs duties have been enhanced on tea, coffee, copra, coconut and desiccated coconut from 35% to 70% and on crude and refined edible oils, the rates range from 45% to 75% / 85%. Import of primary products of plant and animal origin are made Subject to ' Bio Security and Sanitary and Phyto-Sanitary Permit'. The EXIM Policy schemes like Duty Exemption Scheme and the Export Promotion Capital Goods Scheme are being made applicable to the agro sector as well .
April 2002 EXIM POLICY 2000-07	Export restrictions like registration and packaging requirements are being removed on butter, pulses, wheat, groundnut oil, cashew and coarse grains like barley, maize, bajra, ragi and jowar. Restrictions on export of all cultivated varieties of seed, except jute and onion are removed. Notification of 20 agri-export zones covering many exportable items. The conditions of registration of contract with APEDA (Agriculture and Processed food Export Development Authority) for export of non-basmati rice removed. Provision of export subsidies like the transport subsidy for export of fruits, vegetables floriculture, poultry and dairy products which is allowed under the agreement on agriculture. Special powers to the States granted with new schemes like Assistance to States for Infrastructure Development and Exports (ASIDE) and the State Level Export Promotion Committee (SLEPC).

- Source:* 1. Sunanda Sen and Upendra Das .R, (1992), 'Import Liberalization as a Tool of Economic Policy in India Since Mid-eighties', Economic and Political Weekly, March 1.
2. Reserve Bank of India Bulletins for various years and EXIM policy Papers.
3. Various Statements about EXIM Policy, Ministry of Commerce, Govt. of India, New Delhi.

**Table 2: Trade Policy Changes and Current Status
(of Exports) of Major Traded Agricultural Commodities**

Commodity	Year of Policy Break	Policy Change	Current Status (with Exim Policy 2002)
Sugar	1991	Decanalisation Subject to QR	Free Subject to QR notified by DGFT Reg. Cum allocation by APEDA
Milk and milk Products	1992	Decanalised	Free For skimmed milk Quantitative ceilings as may be notified by the DGFT, Registra- tion cum alloca- tion from APEDA.
Rice	1994	MEP on basmati abolished All common variety put Under OGL.	Free Registration with APEDA
Wheat	1994 and 2002	Qrs removed on durum wheat. Qrs and packag- ing restrictions removed on all varieties of wheat.	Free
Rapeseed	1995	Delicensed	Free
Sunflowerseed	1995	Delicensed	Free
Oil of castorbean	1998	Delicensed	Free
Oil of soyabean	1998	Delicensed	Free
Oil of sunflower	1998	Delicensed	Free
Oil of rapeseed	1998	Delicensed	Free
Oil of palm	1998	Delicensed	Free
Groundnut oil	1998, 2002	Delicensed, Removal of pack- aging restriction	Free
Oil of coconut	1998	Delicensed	Free
Soyabean	2002	Delicensed	Free

Castor bean	2002	Delicensed	Free
Palm Kernel	No change	—	Free
Groundnut	No change	—	Free
Coconut	No change	—	Free
Coffee	No change	—	Free Regulated by the Coffee Board
Tea	No change	—	Free Regulated by the Tea Board
Cashew nuts	No change	—	Free Registration with Cashew Export promotion council.
Raw Cotton	No change	—	Free Controlled by the textile commissioner on registration, allocation, quantity and quality
Cotton yarn	No change	—	Free Quantitative ceiling as may be notified by the govt.
Tobacco	No change	---	Free Regulated by the Tobacco Board
Onions	No change	—	Canalised through NAFED, KAPPEC, MSAMB, etc. Subject to MEP fixed by NAFED.
Spices	No change	—	Free Cess of .5%

Source: Exim Policy, Min of Commerce, Govt of India, various issues, Pursell (1996), Goyal (2000).

Table 3: Policy Changes and Current Status of Imports of Major Agricultural Commodities

Commodity	Year of Policy Change	Policy Change	Current Status (with Exim Policy 2002)
Pulses	1980	Delicensed	Free
Rubber	1991 2001	Decanalised	Free
Cotton	1991 1994	Decanalised Decanalised	Free
Sugar	1994	Delicensed	Free
Oil of palm	1994	Decanalised & Delicensed	Free
Oil of castorbean	1995	Decanalised & Delicensed	Free
Other edible oils	1995	Decanalised & Delicensed	Free
Skimmed milk powder & butter oil	1995	Decanalised & Decanalised	Free
Castorbean	1999	Decanalised & Delicensed	Free
Edible oil seeds	1999	Decanalised & Delicensed	Free
Rice	2000	Tariff rates levied	STE (Import through FCI)
Wheat	2000	Tariff rates levied	STE (Import through FCI)
Whole milk	2000	Delicensed	Free
Tobacco	2000	Delicensed	Free
Coffee and Tea	2001	Delicensed	Free
Coconut & oil of coconut	2001	Delicensed	Free
Cashewnuts in shell	2001	Delicensed	Free
Potato	No Change		Restricted
Onions	2001	Delicensed	Free
Fruits	2001	Delicensed	Free
Spices	2001	Delicensed	Free

Note: Edible oils and Oilseeds decanalised from State Trading Corporation (STC) and Hindustan Vegetable Oils Corporation, Cotton decanalised from Cotton Corporation of India (CCI), Skimmed milk powder from National Dairy Development Board (NDDB), Rubber from STC

Source: Exim Policy, Min of Commerce, Govt of India, various issues, Pursell, (1996), Goyal (2000).

Table 4: Tariff Rates for Major Traded Agricultural Commodities in India (in %)

Commodity	1986			1996		2002	
	Basic	Auxiliary	Preferential	Basic	Preferential	Basic	Preferential
Rice	Free	0	0	Free	—	70	—
Wheat	Free	0	0	Free	—	100	—
Coffee	100	50	100% less	10	10%less	100	100% less
Tea	100	50	100%less	10	10%less	100	100% less
Sugar refined	100	50	—	50	—	100	—
Cashew nuts	200	50	190	50	40	30	—
Coconuts	200	50	190	50	40	70	60
Castor seeds	60	50	30	50	40	30	20
Edible oilseeds	60	50	50	50	40	30	20
Palm kernel	60	50	50	50	40	30	20
Oil of coconuts	200	50	190	50	40	100	90

Contd.

Commodity	1986			1996		2002	
	Basic	Auxiliary	Preferential	Basic	Preferential	Basic	Preferential
Castor oil	200	50	190	50	40	100	90
Oil of soyabean	200	50	190	35	25	45	35
Oil of sunflower	200	50	190	50	40	100	90
Oil of rapeseed	200	50	190	35	25	75	65
Oil of groundnuts	200	50	190	50	40	100	90
Oil of palm	200	50	190	50	40	100	90
Cotton carded or combed	60	50	—	50	—	30	—
Tobacco	100	50	—	50	—	30	—
Silk, raw, yarn	50	50	—	50	—	30	—
Onions	100	50	90	10	10	30	20
Milk	60	50	—	40	—	30	—

Source: Directorate of Publications, Customs and Central Excise, New Delhi (1986, 1992, 1996) Goyal Arun (2000, 2002)

Table 5: Growth Rates in Exports

Commodities/year	1970-80	1980-90	1990-95	1995-2000
Total Agriculture	16.72	8.06	12.75	2.3
Rice	35.31	-2.71	42.92	-5.99
Wheat	32.03	17.55	8.51	-75.49
Coffee	8.12	3.4	12.2	2.3
Tea	0.19	-1.24	-6.31	7.10
Sugar	22.23	-37.62	85.41	-46.53
Cashew	-8.07	4.48	9.90	5.65
Castor oil	8.64	4.61	17.4	-0.74
Cake of coconuts	0.18	-64.7	141.29	49.62
Groundnuts	1.343	-2.67	55.4	-4.17
Cake of groundnuts	-5.13	-6.77	23.64	-57.16
Cake of rapeseed	-27.56	33.90	13.92	-45.29
Sesame seed	22.27	24.92	4.24	13.07
Cake of sesame	6.09	-4.60	4.03	-58.8
Cake of soyabean	89.94	29.21	15.03	-3.80
Cake of sunflower	—	21.24	1.19	-50.21
Tobacco	3.44	-5.49	-1.81	2.52
Cotton lint	-8.75	-6.57	-37.86	-34.65
Jute	-14.02	-8.06	-32.46	29.03
Onions	2.69	4.53	7.11	-5.65
Potato	28.95	-10.25	70.51	-4.30
Apple	158.6	3.07	11.23	-22.5
Banana	-32.19	22.93	32.73	63.64
Rubber	21.72	-12.03	149.68	72.39
Pepper	1.33	5.18	5.67	-6.39
Ginger	118.48	0.63	16.35	-24.22
Milk	13.56	13	61.25	29.96

Computed from FAO trade Statistics, www.fao.org

Note: The growth rates are calculated on the basis of the value figures for total agriculture and quantity figures in the case of individual commodities

Table 6: Growth Rates in Imports

Commodities/year	1970-80	1980-90	1990-95	1995-2000
Total Agriculture	20.24	5.01	9.85	4.11
Rice	-40.1	1 32.01	-17.39	-4.52
Wheat	-16.69	-20.16	-21.45	195.44
Sugar	27.40	3.00	475.9	2.17
Linseed	42.29	0.42	8.84	-5.54
Linseed oil	41.54	18.99	-16.63	43.90
Palm oil	100.89	-2.14	11.70	34.15
Rapeseed/mustard oil	81.80	-33.25	21.34	165.5
Cake of soyabean	-57.65	-17.49	-48.93	122.35
Oil of soyabean	29.29	-25.81	26.15	97.18
Cotton lint	-48.37	35.52	220.58	79.96
Jute	-16.48	-1.80	21.55	19.41
Potato	-10.19	-45.95	148.4	-21.48
Rubber	11.98	25.51	-11.83	-23.32
Pepper	-3.97	16.88	4.65	20.37
Ginger	75.65	-20.51	13.07	8.97
Tobacco	0.93	13.74	46.45	43.39
Milk	-1.22	-20.69	27.91	7.85

Computed from FAO trade Statistics, www.fao.org

Note: The growth rates are calculated on the basis of the value figures for total agriculture and quantity figures in the case of individual commodities.

Table 7: Growth Rates in Production

Commodities/year	1970-80	1980-90	1990-95	1995-2000
Rice	2.27	3.69	3.01	-1.52
Wheat	4.69	4.14	5.02	-1.89
Coffee	5.34	-1.33	9.80	6.23
Tea	3.17	2.29	1.56	0.96
Sugar	3.70	7.14	3.59	2.63
Cashew	4.12	4.86	3.63	5.79
Groundnuts	0.05	3.54	0.96	-5.82
Sesame seed	1.00	4.30	-8.48	-1.73
Linseed	-1.96	-0.73	-0.32	-3.08
Cake of coconuts	2.31	2.37	6.01	5.25
Cake of groundnuts	0.02	3.72	0.49	-9.88
Cake of rapeseed	-0.58	8.92	4.24	-0.97
Cake of sunflower -	3.93	21.47	6.19 -	12.19
Cake of sesame	1.30	4.60	-8.55	-7.71
Cake of soyabean	51.43	28.44	16.28	3.20
Castor oil	5.90	5.68	4.64	-0.77
Oil of rapeseed	-0.67	9.46	4.49	-5.88
Oil of soyabean	51.42	28.47	15.07	3.00
Linseed oil	-2.04	-0.89	-0.29	-3.01
Apple	6.88	3.58	2.26	3.79
Banana	4.40	5.07	8.46	10.17
Cotton lint	1.83	2.77	5.53	-0.89
Jute	1.32	-1.43	1.87	
Onions	3.11	2.40	4.89	5.58
Potato	9.20	5.57	3.33	6.40
Rubber	5.44	7.12	7.21	7.76
Pepper	0.11	6.54	1.88	1.21
Ginger	11.00	6.80	4.34	4.97
Tobacco	2.45	-0.33	0.55	3.96
Milk	4.55	5.28	4.38	3.65

Computed from FAO trade Statistics, www.fao.org

Table 8: Growth Rates in Rest of the World Exports

Commodities/year	1970-80	1980-90	1990-95	1995-2000
Rice	4.13	1.60	8.95	8.18
Wheat	4.39	0.70	0.96	3.06
Coffee	0.39	2.63	-1.32	5.07
Tea	3.19	3.80	1.38	4.60
Sugar	5.95	2.25	4.65	4.99
Cashew	4.70	0.39	7.74	4.30
Cake of coconuts	6.69	1.52	-1.35	-5.77
Castor oil	-0.64	-2.07	-16.04	6.00
Groundnuts	-3.51	3.72	3.90	-2.84
Sesame seed	0.10	12.45	-5.97	-22.69
Cake of groundnuts	-2.73	1.78	-13.31	-10.98
Cake of rapeseed	8.04	14.98	4.94	7.50
Cake of sesame	0.76	5.46	2.60	-2.02
Cake of soyabean	12.23	3.36	3.07	5.33
Cake of sunflower	4.57	9.67	3.49	3.47
Apple	3.32	0.42	6.09	-2.77
Banana	1.14	2.64	7.16	0.84
Onions	3.75	2.75	8.56	2.68
Potato	2.25	4.05	0.78	1.48
Jute	-2.90	-1.54	-5.25	1.61
Rubber	1.88	2.67	2.80	4.19
Cotton lint	1.02	2.07	4.91	-2.65
Pepper	16.18	10.23	10.99	16.33
Ginger	75.65	-20.51	13.07	8.97
Tobacco	2.89	0.54	2.65	1.96
Milk	7.35	1.74	5.87	1.30

Computed from FAO trade Statistics, www.fao.org

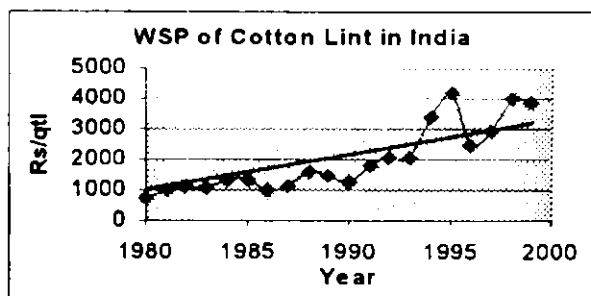
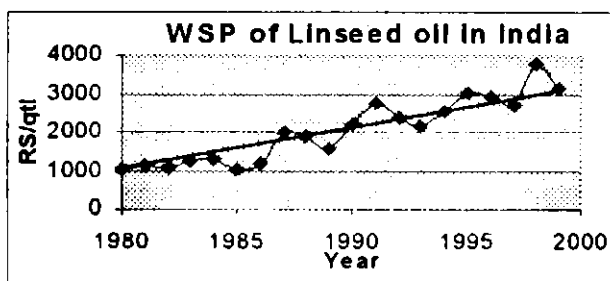
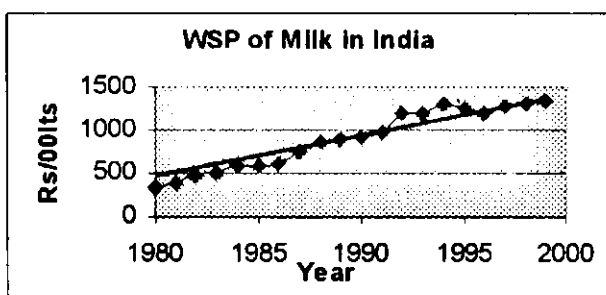
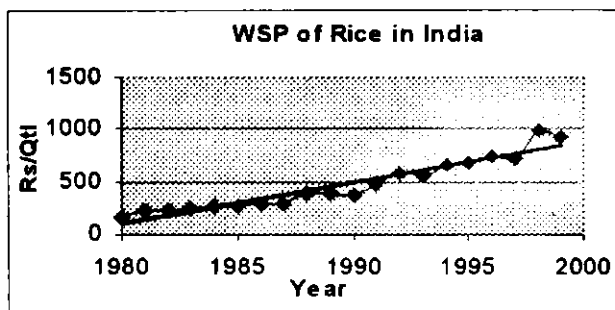
Table 9: Coefficients of Relative Prices (Domestic Price /World Price)

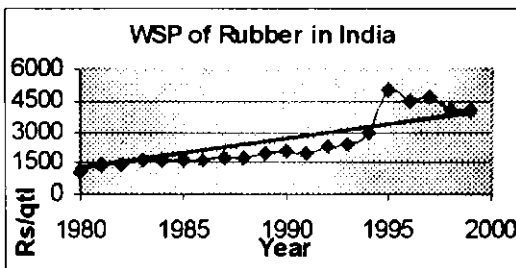
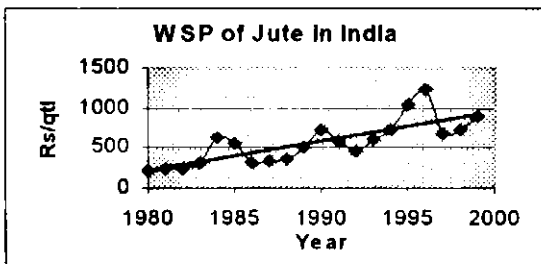
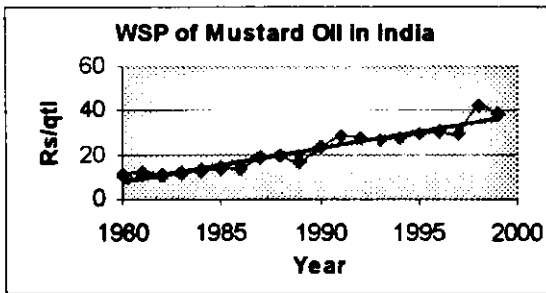
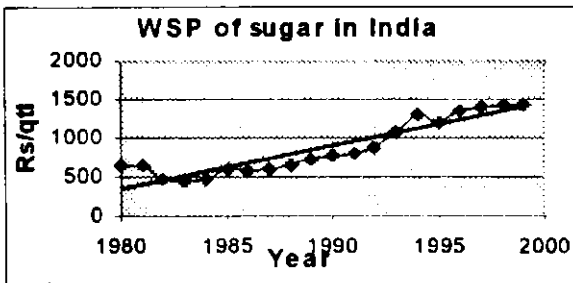
Commodities	1997	1998	1999
Rice	0.98	0.63	0.71
Wheat	0.82	1.30	1.41
Coffee	2.36	1.67	1.91
Tea	1.03	1.18	1.33
Sugar	1.08	1.06	0.77
Cashew	1.04	1.03	0.99
Groundnuts	0.78	0.84	0.79
Cake of groundnuts	1.05	1.34	0.60
Cake of rapeseed	0.88	1.35	1.60
Sesame seed	0.56	0.46	0.56
Cake of sesame seed	0.87	1.13	0.97
Castor oil	0.99	1.12	1.02
Rapeseed oil	1.22	1.47	1.80
Linseed	1.14	0.97	1.16
Linseed oil	0.95	1.25	0.71
Tobacco	0.39	0.39	0.35
Cotton lint	0.82	0.79	0.79
Jute	0.87	0.94	1.06
Onion	0.51	1.39	0.67
Potato	0.55	0.94	0.77
Apple	1.71	1.40	1.42
Banana	0.29	0.29	0.28
Rubber	1.12	1.47	1.60
Pepper	1.14	1.08	1.01
Ginger	1.83	1.07	1.92
Tobacco	0.12	0.38	0.29

Source: Agricultural Prices in India, Ministry of Agriculture, Govt. of India, International Financial Yearbook, IMF, FAO Trade Statistics.

Note: Domestic Price is the representative average annual wholesale price in the major producing state of the respective commodity in India
World price is the leading market price for whichever available and the relevant unit prices respectively for other commodities.

Figure 1: Trends in the Wholesale Prices of Agricultural Commodities Liberalised in Early Nineties in India





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