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The Proposed EU-India FTA: Implications for Textiles, Wearing Apparel and Leather Products

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Abstract:

This paper analyses the effects of a proposed free trade agreement (FTA) between the EU and India, for which negotiations are ongoing. The analysis employs GTAP 7, a global general equilibrium model with 2004 as its reference year. Two scenarios are simulated which include firstly, complete implementation of EU-India FTA such that all bilateral tariffs are completely and immediately eliminated; and, secondly, tariffs are eliminated on textiles, wearing apparel and leather products under the proposed FTA, which simulates the elimination of all export tax equivalents of Multi-Fiber Arrangement (MFA) quotas in the GTAP database. The macroeconomic effects of changes in trade policies are assessed by the welfare economic compensation measure. Results show India benefits under both liberalisation scenarios with gains concentrated in select products and in textiles, wearing apparel and leather products. The findings are broadly also suggestive of the change in the pattern of specialisation such that there is a shift to low value end production. An EU-India FTA delivers little scope for achieving efficiency gains via adjustments to the pattern of present specialisation.

Keywords: International trade liberalisation, India, European Union

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I. Introduction

Regional trade agreements are an integral part of the existing international trade system. There has been a five-fold in bilateral agreements, with numbers increasing from 86 to 421 over 1990-2008 (WTO, 2009).[1] The EU (European Union) and India are currently negotiating a free trade agreement (FTA) that aims for a comprehensive coverage of trade in goods, with zero tariffs on at least 90 per cent of trade volumes complemented with strong and far-reaching coverage of services and investment compatible with substantial sectoral-coverage underpinned by concrete disciplines on domestic regulation; reasonably strong coverage of competition rules, government procurement and trade facilitation. In particular, this Agreement aims to eliminate tariffs within 7 years of its entry into force, except on products classified as 'sensitive' which are included in the negative lists notified by the EU and India.[2] The main objectives and economic motivations for negotiating this FTA are first, to gain preferential and additional market access into the negotiating partner's market; and, second, to leverage tariff concessions into more substantial gains in subsequent trade talks. Enhancing market access is the core component of the ongoing FTA negotiations for both the EU and India. The target date for the conclusion of bilateral talks was 2011-12 but negotiations are still continuing. The slow progress of talks are attributed to contentious issues between the EU and India, some of which include asymmetry between the partners on coverage of products to be excluded from liberalisation.[3] Other factors include diverse interests of the negotiating countries - on the one hand, India perceives this bilateral agreement as a means to enhance market access for its goods (mainly textiles and clothing exports) and service providers in the EU markets as well as a means to address the existing non-tariff barriers (NTBs) faced by its exporters. The EU, on the other hand, continues to pursue this bilateral

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[1] The figure includes those FTAs which became inactive as well as those active. The figures are taken from WTO's website at http://www.wto.org/english/news_e/pres09_e/pr548_e.htm

[2] India has classified nearly 150 agricultural products and 250 manufactured items as sensitive in ongoing negotiations. Examples of such agricultural products are processed food, dairy products, sugar, fruit and vegetables, meat products including poultry, maize, honey, mushrooms, egg products, saffron, coriander seeds, *vanaspati*, and cocoa powder. In addition, products that in manufactured and raw materials included in this list are categories of textiles and clothing (i.e. woollens), textile machinery, rubber, cars, commercial vehicles and two wheelers, paper and paper board, furniture, chemicals, machinery and appliances as well as fish and fish products and wines and spirits in the list of non-agricultural sensitive products.

The EU has notified 226 products as sensitive in its list. Examples of these are chemicals, petrochemicals, plastics, ceramics, and, glassware.

[3] India is insisting that the EU should eliminate tariffs on 95% of the goods under the FTA instead of the 90% being targeted by the EU-India High Level Trade Group.

trade agreement as part of 'Global Europe' strategy that prioritises the new generation of FTA partners based on the two following economic criteria: market potential (market size multiplied by the growth rate) and protected markets (both tariff and non-tariff barriers). India meets all these criteria and constitutes a sizeable market with a total population of over 1.1 billion characterised by a strong and growing middle class, GDP growth rate between 8-10% annually and substantial tariff and other non-tariffs barriers (European Commission, 2007). In addition, there are widely diverging views between the partner countries on the extent of liberalisation in different sectors, particularly in government procurement, services, investments and competition policy which is another reason for the ongoing FTA negotiations stalling.

It is important to undertake a comprehensive assessment of the potential implications of the proposed EU-India FTA as this will provide useful information and insights into bilateral trade patterns between the partners and enable policy makers in India to identify relevant negotiating issues and initiate measures to enhance market access in each other's markets. This paper employs the GTAP version 7 to analyse trade, macroeconomic and welfare impacts within the context of ongoing bilateral FTA talks between the EU and India. The organisation of the paper is as follows: Section II presents the theoretical perspectives of RTAs and discusses findings of earlier empirical work on the proposed EU-India FTA. Section III discusses the theoretical foundations of the GTAP model. Section IV lists simulations scenarios and reports the results. Section V concludes with a discussion on policy implications.

II. Literature on Regional Integration

In economic literature, regional integration has sparked mixed evidence from partner countries (Panagariya, 2000). The classic theory by Viner (1950) and other economists focus largely on trade creation and diversion.[4] Findings suggest RTAs do not necessarily improve members' welfare and that tariff elimination between trading partners may lead to trade diversion where imports shift from the most efficient supplier to the partner country thus leading to a welfare loss. In contrast, the RTA can be trade creating if it leads to greater imports from efficient suppliers within the agreement such that consumer gains outweigh the costs from production inefficiency with net overall welfare (Krugman, 1991; Summers,

[4] For instance see Meade (1995), Lipsey (1970) and Pomfret (1988).

1991). Robinson & Thierfelder (2002) highlight the welfare enhancing potential of RTAs for member countries and the rest of the world and conclude aggregate trade creation is much larger than diversion. But theoretical literature does not provide overall strongly conclusive results on net welfare effects of RTAs given the relative magnitude of trade creation and diversion effects may vary across commodities within the same RTA, between RTAs, and over time. From an economic perspective, bilateral trade liberalisation enhances the overall welfare of partner countries' firms, allows geographical dispersion of production activities, integrates production processes and improves productivity. The resulting scale economies reduce costs, create new markets for products in a competitive environment, generate additional positive externalities through technology transfer and diffusion and accelerate the accumulation of learning and experience. These complemented by increasingly homogenous buyer's preferences with falling structural barriers to cross-border competition spurs productivity and exports (Kobrin, 1991; Contractor, Kundu & Hsu, 2003). Studies contend that recent regional integration efforts are in recognition of gains from increased openness to trade, productive use of resources, lower consumer prices, enhanced market access for trading partners though the evidence of benefits is somewhat mixed and controversial.

Economists employ a multitude of approaches to portray regional integration effects. Wannacott (1990) puts forth the 'hub and spoke' perceptive which suggests there is an increased interconnectedness between trading partners as that regional agreements link these countries as do the spokes to hubs. Baldwin's (1995, 1997) 'domino' theory suggests regional agreements trigger multiplier effects that provide an impetus to the non-participating countries to seek membership. Ethier (1998) and Summers (1991) corroborate that RTAs as a "building block" and are, therefore, a stepping stone for countries towards multilateral trade liberalization. Bhagwati & Panagariya (1996) and Krueger (1999) list a conflicting view that such agreements have the ability to promote or hinder the multilateral trading system under the WTO. This group of economists put forward the 'stumbling blocks' perspective such that RTAs detract partner countries' efforts to liberalise at the multilateral level (Panagariya, 1996; Srinivasan, 1998; Bhagwati, 1998; Panagariya, 2000). In this context, Bhagwati & Panagariya (1996) propose the 'spaghetti-bowl' approach to regional agreements such that trade generates complexity often leading to lack of transparency in the global trading system.

A distinguishing feature of the ongoing RTA negotiations is the increasing engagement of developed and developing countries from different geographical regions. There is again

overall mixed evidence of increased trade from the analyses of regional agreements between developing and developed countries (Cernat, 2003; Lee & Shin, 2006). Analysis on trade flows between RTA partners report evidence of significantly augmenting bilateral trade flows (Baier & Bergstrand, 2007). The extent of trade creation depends on the relative factor endowments and economic size of trading partners such that an agreement between countries with dissimilar market size can potentially amplify inequalities (Baier & Bergstrand, 2004). The World Bank (2000) report substantiates benefits vary with size and the level of development of the partner country. Geographical proximity is an important determinant of total gains and losses from FTAs, with high trade dependence and low risk of trade diversion reported between countries from the same geographical region (Lipsey, 1957; Summers, 1991). Magee (2003) contends that size and locational dissimilarity between developing and developing economies make these countries 'unnatural partners' which adversely impacts on the benefits for partner countries. The importance of transport costs between countries finds mention in the 'inherent regionalism' theory advocated by Frankel (1997), Frankel, Stein & Wei (1995), Frankel & Wei (1997). Within the context of 'natural trade partners' hypothesis framework, Wonnacott & Lutz (1989), Frankel et al. (1995, 1998) and more recently Fruend & Ornelas (2009) argue trade diversion may be less relevant than initially perceived and countries are most likely to experience growth in trade after concluding the RTA. Grossman & Helpman (1991), Keller (1998), Coe & Hoffmaister (1999) highlight the potential welfare gains from trade productivity links and the consequent technology transfer and diffusion between RTA member countries. These findings are congruent with Baldwin's 'domino theory' that regional agreements triggers countries to lower bilateral import barriers 'like a row of dominoes' to avoid losses from the trade diversion effect in the event of these countries remaining outside the regional agreement (Baldwin, 1995; Baldwin & Venables, 1995).[5]

Within the present context of the proposed EU-India FTA, there are a host of studies that employ different approaches such as CGE modelling and gravity approach to analyse the impact of the proposed FTA. The results report an 'ambiguous' welfare effect from goods sector liberalisation mainly attributed to difference in comparative advantage between the EU and India (Gasoirek et al, 2007). The government of India report (2007) finds that India will be a net loser in the goods sector, primarily as a result of revenue losses from lower or zero

[5] Trade diversion occurs when sources of supply switch away from the non-FTA partner suppliers to the new FTA partner.

tariffs, though gains are expected to be achieved through services sector liberalisation. Agence Europe (2007) estimates that the growth of trade in goods will favour the EU such that EU exports are estimated to grow (56.8%) while India's exports to the EU will register a moderate growth (18.7%) in specific sectors such as textile and leather and to a limited extent in manufactured items and food products. Decreux and Mitaritonna (2007) simulate reducing tariffs by 95% (with the MIRAGE model) and estimate a big jump in EU exports to India with commensurate terms of trade gains, particularly in the automobiles and machinery parts sector that is estimated to grow by 700%. This model simulates two scenarios for the services sector - 10% and 25% tariff cuts, respectively. Results show a positive trade impact on India under both the scenarios such that the overall impact assessed in terms of real income is sensitive to the inclusion of relevant services sectors in the ongoing negotiations for India to allow India to reap the full welfare benefits of the potential FTA. Similar overall positive effects, though small in magnitude, are projected for both the EU and India with losses in some sectors but overall gains for India's services exports to the EU (Ecorys, 2009). In particular, the estimates show that India is expected to gain €4.9bn and €17.7bn in the short and long run, respectively while the EU is expected to gain €4.4bn and €1.6bn in the short and long term, respectively. For sectors like motor vehicles and automotives sector, the effects on output are expected to be positive for both the EU and India, especially when the dynamic FDI effects are included. But the study predicts a decline in production for the Indian manufacturing sector with negative employment changes in sectors like paper production, publishing, transport equipment, processed food and beverages, and tobacco products. Investment flows, as a result of the FTA and possible future barrier reductions are estimated to generate potentially large beneficial effects for both the EU and India, estimated to be at €17.7 billion. The impact of the FTA on real wages (both skilled and unskilled workers) will also be positive as real wages are estimated to increase by over 1.5 % in India. Polanski et al (2008) employ the CGE approach and the simulation results report an increase in Indian exports to the EU (5.5%) and imports from the EU (3.4%). The overall impact on India would be slightly negative, with a welfare loss ($250 million) and decline in the overall real income and private household consumption. Largest increases are estimated in apparel and textiles ($1.9 billion), followed by 'other manufacturing', which includes leather and footwear ($520 million), chemicals ($220 million), and services ($230 million). India's imports would increase by $2.6 billion (3.4%) in manufactured goods, particularly capital goods ($2.1 billion). For other sectors net welfare losses are estimated for India from the potential FTA (Achterbosch et al. 2008; Powell, 2008). The extent of net benefits for India

are less than for the EU with benefits being determined by the existing average most favoured nation (MFN) tariffs, supply elasticities, revealed comparative advantage variations and export barriers such as 'behind-the-border' barriers to trade.

III. GTAP Model: Theoretical Framework

CGE models are a powerful tool to analyse the economic effects of FTAs because it captures the economy wide impact of policy shocks associated with trade openness. These models also enable a quantitative assessment of the direct and indirect effects of changes in trade policy and other policy interventions within a consistent framework that takes overall market relationships into account. In general, a variety of approached have been employed to assess the effects of regional integration. Earlier studies examine the ex-post share of intra-regional trade such as trade shares (Brada, 1994; Saxonhouse, 1994) and the gravity approach (Frankel, 1997; Krueger, 1999). Others use CGE approaches such as Global Trade Analysis Project (GTAP) to analyze the aggregate welfare and distributional impacts of policies whose effects may be transmitted through multiple markets (Perry et al, 2001), international trade (Harrison et al, 1997), and this approach is also increasingly employed to assess the impact of environmental regulation (Goulder, 2002).

The GTAP modelling approach employed for this paper, developed by Hertel (1997), is an ex-ante analysis of trade policies and agreements that employs the CGE comparative static model. The underlying theory is set in behavioural equations that capture the behaviour of optimising agents and accounting relationships between agents. The model assumes full employment and perfect competition in all markets such that demand equals supply and markets are self clearing such that all producers receive the same marginal cost. It goes with the zero profit assumption that revenues must be exhausted through expenditure on domestic and imported intermediate inputs and factor income is paid to regional households. The model has a single representative household that maximises utility subject to the expenditure constraint through the Constant Difference of Elasticity (CDS) and Constant Elasticity of Substitution (CES). Regional households allocate expenditure over private, government and savings according to Cobb Douglas utility function and each component of the final demand is a constant share of total regional income. These goods represent CES combinations for domestic and imported goods (with CES aggregation of imports for each region) and the consumer demand elasticities draws on the work by Reimer & Hertel (2004). The model provides a basis for differentiation between products by countries and regions (Armington

assumption) that allows distinguishing between trade flows by country/region and destination as well as on the basis of agents i.e., intermediate demand, final demand by households, government and investment. Import shares are determined by the relative prices and substitution elasticities between domestic and imported commodities.

In the GTAP model, the possibility to substitute inputs (primary and intermediate) allows minimising total costs with the nested production function. At the first level, intermediate input bundles and primary-factor bundles are used in fixed proportions according to a Leontief function. At the second level, intermediate input bundles are formed as combinations of imported bundles and domestic goods, and primary-factor bundles are obtained according to a Constant Elasticity of Substitution (CES) form. At the third level, imported bundles are formed as CES composites of imported goods with the same name from each region. Other parameters on factor substitution elasticities, factor transformation elasticities, investment parameters are based on Hertel et al (2004).

The government has a fixed share of aggregate expenditure in each region which is allocated across commodities by a Cobb-Douglas distribution. The allocation of total expenditure on each good to domestically produced and imported versions is based on the same nesting scheme used to allocate total household expenditure on each good. The standard GTAP closure takes factor endowments, technology, and tax and subsidy rates as exogenous variables. Investment is financed by a global pool of savings with each region contributing a fixed share to this pool. Savings are allocated to regions either in a fixed proportion or according to the relevant rates of return.

This paper employs GTAP database Version 7 which originally includes 57 commodities and 113 regions with 2004 as the base year (Narayanan & Walmsley, 2007). We aggregate the GTAP regions and sectors into 11 regions and 11 sectors, details of these are placed as an Annex. The GTAP database sources include individual countries input-output tables, global trade information and aggregate bilateral trade statistics from UN trade statistics. This is supplemented by information from the IMF, FAO and World Bank. Tariff and protection data is taken from the MacMap database at the 6-digit Harmonised Systems (HS6) level which is in turn aggregated using trade weights compiled from the COMTRADE database.

IV. Simulations and Results

The EU is India's largest trading partner while India ranks as the EU's tenth most important trading partner (Eurostat, 2009). In 2008, nearly 22% of total India's exports went to the EU and 18% of India's total imports came from the EU. The ongoing negotiations are of particular interest because trade in goods between the EU and India has more than doubled over 2000-2008. The analysis is structured around a set of scenarios that account for increasing trade between the EU and India and also recognise the importance of textiles, apparel and leather goods in India's trade with the EU given textiles, wearing apparel and leather products (including footwear) constitute nearly a third of total Indian exports to the EU. In light of this, the implications of trade liberalisation are particularly relevant from the Indian policy making perspective. One scenario approach specifically models complete liberalisation of textiles, wearing apparel and leather products including footwear (Texlea) under the proposed bilateral FTA between the EU and India. The model simulations examine product related defensive and offensive interests conditional to the EU opening up its market through the following:

(i) Complete implementation of EU-India FTA, i.e. zero tariffs on trade between the EU and India: this models the effect of complete tariff elimination by both the EU and India on all goods under the FTA framework. This means that all bilateral tariffs are completely and immediately eliminated.

(ii) 100% tariff elimination on Texlea by the EU and India: under this scenario all tariffs on textiles, wearing apparel and leather products are eliminated by both partner countries in FTA. This scenario simulates the elimination of all export tax equivalents of Multi-Fiber Arrangement (MFA) quotas in the GTAP database.

We assume endogenous unskilled labour supply and exogenous wages to account for unemployment in India and other developing countries.

The simulations (scenario 1 and 2) aim to examine macroeconomic effects of tariff elimination under the proposed FTA as well as trade creation and diversion effects for deriving policy implications both for the EU and India. The macroeconomic effect is measured through equivalent variation (EV), which is a measure of what change in income would be equivalent to the proposed policy change. More specifically, the focus is on allocative efficiency changes arising from any improvements in inter-sectoral resource

allocation, terms of trade effect and changes in savings-investment balance.[6] Table 1 presents welfare effects of both scenarios, i.e., complete tariff elimination on all products by India and the EU under the FTA (scenario 1) and complete tariff elimination on selected products - textiles, apparel and leather products (scenario 2), using equivalent variations.

Table 1: Welfare effects under Scenario 1 and 2 (in million US$)

Scenario 1

WELFARE	Allocative efficiency effect	Endowment effect	Terms of trade effect	Investment-Savings effect	pref_G1	Total
China	-36.6	-44.8	-141.9	53.3	0	-169.9
EastAsia	-12.4	0	56.8	78.4	0	122.9
SEAsia	-18.4	8.4	-224.5	46.6	0	-187.9
India	-272	3125.4	-685.8	-243.9	13	1936.7
XSASIA	-21.4	-18.2	-5.6	-28.4	0	-73.6
USACAN	4.7	0	184.5	-89.1	0	100
LatinAmer	21.9	20.9	-138.4	14.9	0	-80.7
EU_27	511.7	0	2399.1	53.3	0	2964.1
MENA	-40.6	0	-830.6	86.1	0	-785.1
SSA	-24.6	-13.3	-295.8	7.7	0	-325.9
RestofWorld	472.4	0	-324	21.1	0	169.4

Scenario 2

WELFARE	Allocative efficiency effect	Endowment effect	Terms of trade effect	Investment-Savings effect	pref_G1	Total
China	-14.2	-77.3	-108	-6.1	0	-205.7
EastAsia	0.5	0	-47.5	-16.9	0	-63.9
SEAsia	-3.9	-27.9	-26.7	-3.5	0	-62.2
India	287.4	1111.5	634.2	114.8	0.2	2148.1
XSASIA	-18.4	-42.2	-41.3	-6.9	0	-108.9
USACAN	-2.2	0	-28.4	-24.3	0	-54.9
LatinAmer	-7	-6.4	0.3	-7.4	0	-20.4
EU_27	-48.5	0	-329.2	-34.4	0	-412.1
MENA	8.6	0	-38.3	-6.4	0	-36.1
SSA	-11.1	-4.5	-7.9	-1.8	0	-25.2
RestofWorld	1.4	0	-9.3	-7.4	0	-15.3

Source: Model simulations

The analysis of welfare gains for a country shows some sectors lose while others gain from liberalisation under the proposed FTA. Simulation results for scenario 1, that models full

[6] The allocative efficiency gains accrue from optimum allocation of resources while the terms of trade effect are an indicative summary measure of change in ratio of prices received for exports and paid for imports.

liberalisation of all products, show positive welfare effects for both the EU and India from liberalisation under the FTA. Most other countries and regions report welfare losses, highest being in MENA followed by the SSA. The decomposition of welfare effects suggests gains for the EU from the FTA (2964 million US$) are driven mainly by positive terms of trade complemented with allocative efficiency. On the other hand, India faces terms of trade losses (686 million US$) attributed to trade diversion effect of full liberalisation under the proposed FTA that is counterbalanced by large and positive endowment effect (3125 million US$). The breakdown of allocative efficiency by factors and commodities for both the EU and India suggests liberalisation has a positive impact on the EU as its exports to India increase and also on account of an efficient resource allocation in heavy manufacturing industry and extraction industries. Under scenario 1 (full liberalisation of all sectors), an increase in exports from EU to India are accompanied by a decline in exports from other countries. Overall EU imports of textiles, apparel and leather also increase from India under the FTA.

An assessment of sector level results show that the terms of trade losses for India are primarily driven by two capital intensive sectors – extraction and capital intensive manufacturing. Higher imports of heavy and light manufacturing industry as well as of extraction sectors from the EU together with terms of trade losses for India suggest trade diversion effect, which is primarily attributed to high protection levels of these sectors in India. An explanation of gains for the EU is that the average applied MFN tariff notified by India to the WTO was 14.4% in 2010 with tariff rates of 34.7% and 10.5% on agricultural and industrial products, respectively.[7] Given tariffs levied by India are higher than the EU, the magnitude of gains for the EU is higher from the FTA when India eliminates all tariffs on EU products. The disposition of imports for India reports higher share of firms (55.1%) followed by households (47.5%) which is again indicative of higher imports under the liberalised scenario from the EU than other countries.

The results for scenario 2 show gains for India and losses for the EU from fully liberalising selected sectors i.e., textiles, apparel and leather products under the FTA. Detailed country analysis shows that China and South Asia suffer highest losses from liberalisation of trade in textiles, apparel and leather products. This suggests an increase in Indian exports of textiles and apparel is as a result of enhanced competiveness of exports, particularly the Chinese. Before liberalisation, the average tariff levied on Indian textile exports was 7.2% (ad valorem

[7] The tariff structure notified by India to the WTO provides protection to agriculture (mainly beverages and tobacco followed by coffee, tea and oilseeds, fats and oils), automobiles, and textiles and clothing sectors.

equivalent) and with liberalisation under Scenario 2, Indian exporters benefit by preference margin allowed compared to other competitors such as China and Bangladesh. Gains for India are driven by better allocation of resources as well as the endowment effect arising from higher demand for unskilled labour while positive terms of trade effects emanate from higher Indian exports of textiles, apparel and leather to the EU which leads to higher demand for labour in these sectors as well as in transport and construction.

Sensitivity analysis to test robustness of the results.....

Table 2 presents sectoral output effects from liberalisation to help identify which sectors gain or lose under the proposed FTA.

Table 2: Output Effect (% change)

	Scenario 1		Scenario 2	
% Change in output	India	EU27	India	EU27
Agrifood	0.1	0	0	0
Fibers	4.8	0	3.4	0
Extraction	-1.4	1	-0.5	0
Tex	6.5	-0.9	4.7	-0.5
Wap	30.2	-0.7	24.9	-0.4
Lea	10	-0.5	5.9	-0.1
LightMnfc	1	0	-0.8	0
HeavyMnfc	0.7	0.1	-0.6	0
Util_Cons	1.5	0	0.3	0
TransComm	0.8	0	0.4	0
OthServices	-0.3	0	-0.1	0

Source: Model simulations

Simulation results show there is no large change in the EU output but this is not the case with India for which there is an increase, particularly in apparel. The change in the output is explained by the fact that Indian exports will gain access to the EU market at zero tariffs under the proposed FTA compared to higher duties in the pre-FTA scenario. Changes in textiles, apparel and leather sector output vary under both scenarios, with larger increase in scenario 1 (54%) compared to scenario 2 (38%). The increased output in these sectors is substantiated by an expansion of fiber imports under the FTA scenario. Another point worth mentioning is that the proposed FTA particularly promotes India's imports of capital intensive manufactures from the EU. This is hardly surprising given that India current imports from the EU comprise mainly of capital intensive and manufactured products. In this manner the proposed FTA will improve the competitiveness of EU exporters in particularly

these products compared to other countries for which tariffs will continue to remain at the current level. Under scenario 2 when there is full liberalisation of textiles, apparel and leather sectors the output increases. In particular, the results suggest the possibility of relocation of textile manufacturing from the EU, possibly East Europe into India.

Within the present framework, non-tariff barriers (NTBs) impede the benefits of enhanced market access. Studies show that these obstacles have been established by legislation and often derive from practical implementation and relate to the overall macro environment. From an Indian perspective, the existing NTBs are attributed to divergences in the regulatory framework between the EU Member States. The main impediments to exports are attributed to the lack of uniform conformity assessment criteria; divergence in national product standards on health and safety, labelling, marking and packaging requirements; and, varying environmental regulations. For instance, the barriers relate to restrictions and minimum limits on the use of chemicals mainly in footwear and clothing. Requirements for footwear include limits on azodyes (prohibited beyond 30ppm); chrome IV (prohibited beyond 3ppm limit); cadmium (permitted up to 100ppm); as well as polychlorinated biphenyls (PCBs) and polychlorinated terphenyls. In wearing apparel there are specific regulations on safety for children's clothing such as the use of cords for clothes meant for children and young people. Given that the EU guidelines lay down only the minimum standards for imports, the Member State's legislation often require compliance with more than the minimum requirements which manifests into a NTB for Indian exporters. In leather footwear sector, the regulation on residues in raw hides and wet-blue leather is another example that manifests as a recurring barrier for footwear exporters. Multiplicity of labels in the different EU Member States is another potential problem.[8] Yet another is the requirement for exporters to self-certify for azo-colorants[9] in dyed leathers and textiles.

[8] In the EU there are government and private labelling schemes. Some examples of government sponsored schemes include Blue Angel (Germany), Ecomark (Japan), Environmental Choice (Canada), White Swan (Nordic Countries), Eco-Mark (India), Green Label (Singapore). Similarly, private labelling schemes have Öko-Tex (Germany). Green Seal (USA), Bra Miljöval (Sweden), Britta Steilmann Collection (Germany). There are, in addition, private environmental labels which the importers want the suppliers to meet. An example of the use of voluntary environmental labels by the EU Member States is the introduction of *Markenzeichen Schastoffgeprufth Textilien* (MST). Another label is *Markenzeichen Unweltschonende Textilien* (MUT) which set norms for production processes and lays down standards on the degree of air, water and soil pollution. Apart from this, a private label like Ökotex has been developed by *Ostereichisches Textil-Forschungsinstitut*, which sets norms for both, the raw material and final products.

[9] Azo-colorants are the most important class of synthetic dyes and pigments, representing 60-80% of all organic colorants. They are used widely in substrates such as textile fibres, leather, plastics, papers, hair, mineral oils, waxes, foodstuffs and cosmetics.

Table 3 suggests the demand for factors of production, particularly labour increases with output. This implies rising demand for labour will lead to an upward pressure on wages which in turn will drive relocation of labour into the textile, apparel and leather industry. The economic impact of integration also varies in terms of factor endowments and prices between the EU and India. Basically, price changes of factors are suggestive of the economic impact of the proposed FTA for which the transmission mechanism are export and import prices that in turn impact on domestic prices. Table 3 presents the results on changes in factor demand when there is full liberalisation for all sectors (scenario 1) and specific sector liberalisation (scenario 2) under the proposed FTA.

Table 3: Change in factors and factor prices (% terms)

	Scenario 1		**Scenario 2**	
Factor change (%)	India	EU_27	India	EU_27
Land	0	0	0	0
UnSkLab	1.6	0	0.6	0
SkLab	0	0	0	0
Capital	0	0	0	0
	Scenario 1		**Scenario 2**	
Change in factor prices (%)	India	EU_27	India	EU_27
Land	1.2	0	1.2	0
UnSkLab	-0.2	0.1	0.7	0
SkLab	0.8	0.1	1	0
Capital	0.9	0.1	0.9	0

Source: Model simulations

Within the context of full liberalisation scenario under scenario 1, factor prices in India show a tendency to rise (except unskilled labour) and an increase in land price complemented with increase in capital and skilled wages. This suggests signs of restructuring away from industrial production to labour intensive manufactures. In scenario 2 when textiles, apparel and leather products are selectively liberalised under the FTA, demand for unskilled labour increases though to a lesser extent and the remuneration for land, labour and capital show an upward trend. In combination with a minor increase in skilled wages and constant capital price, the signs of economic restructuring away from skilled manufacturing to labour intensive production are clear. Given the simulations project an increase in the exports of specific product groups liberalised and in light of higher demand for labour (unskilled and skilled) as well as capital, it is likely that production may be forced to move to lower end of the value chain under the FTA. This implies that the FTA might potentially shift the current trend from high value specialisation to low value production and specialisation at this end. In

light of the striking benefits that are expected to accrue to textiles, apparel and utilities and construction sectors it is also highly likely that these sectors will benefit from FDI and technology inflows which will in turn enable the Indian producers to be competitiveness and compete in exports at the international level.

V. Conclusions

The proposed EU-India FTA will have potentially far reaching implications given the rapidly increasing value of trade between the EU and India. The sheer size of trade under the proposed EU-India FTA is of particular interest and has attracted the attention of trade specialists and policy makers (Gasoirek et al, 2007; Agence Europe, 2007; Decreux & Mitaritonna, 2007; Achterbosch et al. 2008; Powell, 2008; ECORYS, 2009; Khorana et al, 2010). Given India has distinct supply side advantages, an FTA can enable Indian suppliers to enhance exports to the EU substantially possibly at the costs of other countries and EU domestic suppliers. Besides with the dismantling of tariffs under the proposed FTA, the EU suppliers can possibly replace India's imports from other countries which suggest the possibility of trade diversion or creation as the case may be depending on the relative strength of these impacts. Two scenarios are simulated which include firstly, full tariff elimination on all products; and, secondly, complete tariff elimination on textiles, apparel and leather products under the proposed FTA. Results show India benefits under both liberalisation scenarios with gains concentrated in select products such as textiles, apparel and leather products. The findings are broadly also suggestive of the change in the pattern of specialisation such that there is a shift to low value end production which is substantiated by increase in factor prices.

Results of scenario 1 simulations show positive welfare effects for both the EU and India from liberalisation under the FTA. There are though terms of trade losses for India which are primarily driven by two capital intensive sectors – extraction and capital intensive manufacturing, both light and heavy, of which the imports from the EU increase. India does gain from endowment effect with factor prices showing an upward trend while the EU's gains are from terms of trade when all tariffs are eliminated under this simulation. Scenario 2 reports gains for India but losses for the EU when only textiles, apparel and leather products are fully liberalised; gains attributed to better resource allocation and endowment effect. The increase in output in India is particularly in the apparel sector with higher demand for fibers.

This hints at the possibility of relocating textile manufacturing from the EU to benefit from low production costs under the FTA thus leading to higher demand for unskilled labour. In combination with a minor increase in skilled wages and constant capital price, there are signs of economic restructuring away from skilled manufacturing to labour intensive production.

To ensure the benefits of low prices are transmitted to the consumers it is imperative to go ahead and negotiate 'deep integration'. This form of integration (as opposed to shallow integration) will be possible when existing NTBs are eliminated within the current EU-India trade. But as things are the FTA can at best result in shallow integration which is likely to generate losses through trade diversion. To address this it is imperative to identify specific areas of regulatory divergence to develop an understanding of the regulatory compliance requirements complemented with trade facilitation and capacity building measures that are integral to the success of the ongoing talks. Specific steps within the FTA framework proposed include initiating consultations and joint collaborative review on regulations between the Indian and EU agencies. The emphasis should be on identification of specific areas of regulatory divergence to be tackled between partner countries. Understanding the regulatory compliance requirements and also taking steps to provide transparency in regulations as well as to facilitate information dissemination to the exporters are the starting point. The first step can be trade facilitation and capacity building measures, which are integral to the success of any FTA between developed and developing country. From the Indian perspective, technical assistance and capacity building measures are imperative if the regulatory divergence has to be addressed for Indian textile and apparel exporters. More specifically, capacity building through technical assistance in India will allow Indian exporters to respond to the challenges of EU trade regulations, standards and environment requirements. There needs to be support to foster competition policy in India, which is still in infancy. Strong competition rules will ensure consumers in both countries will potentially benefit from lower prices assuming producers pass on the benefits of tariff elimination under the proposed FTA to the consumers.

Annex

Table 4: Product groups

Product groups	Description
Agrifood	Grains and Crops
Fibers	Fibers
Extraction	Mining and Extraction
Tex	Textiles
Wap	Clothing
lea	Leather
LightMnfc	Light Manufacturing
HeavyMnfc	Heavy Manufacturing
Util_Cons	Utilities and Construction
TransComm	Transport and Communication
OthServices	Other Services

Table 5: Regional aggregation

Regions used for analysis	Regional aggregation description
China	China
EastAsia	East Asia
SEAsia	Southeast Asia
India &	India
XSASIA	South Asia
USACAN	USA and Canada
LatinAmer	Latin America
EU_27	European Union 25
MENA	Middle East and North Africa
SSA	Sub-Saharan Africa
RestofWorld	Rest of World

Reference:

Achterbosch, T., Kuiper, M., & Roza, P. (2008), 'EU-India Free Trade Agreement: A Quantitative Assessment', Report No: 2008-059, Project code 20824, LEI Wageningen, The Hague.

Agence Europe (2007), 'Council's Green Light to Launch of Negotiations for Bilateral Free Trade Agreements with ASEAN, South Korea and India', Available via <www.ciaonet.org/pbei/oxfam/0003418/f_0003418_2529.pdf>.

Baier, S. & Bergstrand, J. (2007), 'Do free trade agreements actually increase members' international trade?', *Journal of International Economics* 71 (1), 72–95.

Baldwin, R. E. (1995), "A Domino Theory of Regionalism" in R. Baldwin, P. Haarparanta and J. Kianden eds. *Expanding Membership of European Union.* CUP, Cambridge.

Baldwin, R. E. (1997), "The Causes of Regionalism", *The World Economy*, 20 (7): 865-88.

Baldwin, R., & Venables, A. (1995), "Regional Economic Integration", *Handbook of International Economics* edited by G. Grossman and K. Rogoff, Amsterdam: Elsevier Science Publishers.

Bhagwati, J. & Panagariya, A., (1996), *The Economics of Preferential Trade Agreements*, The AEI Press, Cambridge, MA.

Bhagwati, J. (1994), "Threats to the World trading System: Income Distribution and the Selfish Hegemon," *Journal of International Affairs*, Spring.

Bhagwati, J. (1998), "Trading preferentially: theory and policy," *Economic Journal*, 108(449): 1128–48.

Brada, J.C. (1994), "Regional integration in Eastern Europe: prospects for integration within the region and with the European Community", In Melo, J.D. and Panagariya, A. (eds): New Dimensions in Regional Integration, Cambridge University Press, Cambridge.

Cernat, L. (2001), "Assessing Regional Trade Agreements: Are South-South RTAs More Trade Diverting?" UNCTAD, Geneva (mimeo).

Coe, D & Hoffmaister, A. (1999), "North-South Trade: Is Africa Unusual?", *Journal of African Economies,* 8 (2): 228-56.

Contractor, F., S. Kundu, & Hsu, C. (2003), "A Three-Stage Theory of International Expansion: The Link Between Multinationality and Performance in the Service Sector," *Journal of International Business Studies,* 34 (1), 5–18.

Decreux, Y. & Mitaritonna, C. (2007), "Economic Impact of a Potential Free Trade Agreement between the European Union and India", report by CEPII/CEMIN to the DG Trade of the European Commission, Trade Specific Contract No: SI2.434.087, European Commission. Available at <http://trade.ec.europa.eu/doclib/html/134682.htm>

Ecorys (2009), 'Trade Sustainability Impact Assessment for the FTA between the EU and the Republic of India', report for DG Trade in the European Commission, Reference no: TRADE07/C1/C01 - Lot 1, Rotterdam.

Ethier, W. (1998), "The new regionalism", *The Economic Journal*, 108(449), 1149–61.

European Commission (2006), 'Global Europe: Competing in the World', document No: COM 567/2006.

Eurostat (2009), News Release, 4 November, Brussels. Available at: <http://europa.eu/rapid/pressReleasesAction.do?reference=STAT/09/157&type=HTM>

Frankel, J. (1997), *Regional Trading Blocks in the World Economic System.* Washington DC: Institute for International Economics.

Frankel, J. and Wei, S J. (1997), 'Regionalization of World Trade and Currencies: Economic and Politics', The Regionalisation of the World Economy, University of Chicago Press: Chicago.

Frankel, J., Stein, E. and Wei, S. (1995), "Trading Blocs and the Americas: The Natural, the Unnatural and the Supernatural," *Journal of Development Economics,* 47, 61-96.

Gasiorel, M. et al. (2007), 'Qualitative analysis of a potential free trade agreement between the European Union and India'. Executive Summary Report to DG Trade of the European Commission. Sussex, University of Sussex, Centre for the Analysis of Regional Integration at Sussex and Jaipur, CUTS International, 2007. Available at <http://www.cuts_citee.org/EUIndia_RTA.htm>.

Grossman, G. & Helpman, E. (1991), *Innovation and Growth in the Global Economy,* Cambridge, MA: MIT Press.

Goulder, L., (2002), "*Environmental Policy Making in Economies with Prior Tax Distortions",* Edward Elgar, Northampton MA.

Harrison, G.W., Rutherford, T.F. & Tarr, D.G. (1997), "Quantifying the Uruguay Round", Economic Journal, 107: 1405-30.

Hertel, T. (1997), "*Global Trade Analysis: Modelling and Application"* (ed). Cambridge University Press.

Hertel, T. Hummels, D., Ivanic, M. And R. Keeney (2004), *How Confident Can We Be In CGE-Based Assessments of Free Trade Agreements?* GTAP Working Paper No: 26, Indianapolis, US: Centre for Global Trade Analysis.

Keller, W. (1998), "Are International R&D Spillovers Trade-related? Analyzing Spillovers among Randomly Matched Trade Partners", *European Economic Review* 42: 1469-81.

Khorana, S., Perdikis, N, Kerr, W.A. & Yueng, M. (2010), *The Era of Bilateral Agreements: The EU and India in Search of a Partnership,* Elgar Publishing, January.

Kobrin, S. (1991), "An empirical analysis of the determinants of global integration", *Strategic Management Journal*, 12 (Special Issue): 17-31.

Krueger, A. O. (1999), "Are preferential trading arrangements trade liberalising or protectionist?", *Journal of Economic Perspectives*, 13(1), 105–124.

Krugman, P. (1991), "Is Bilateralism Bad?" in E. Helpman and A. Razin (eds.), *International Trade and Trade Policy,* Cambridge, Mass.: MIT Press.

Krugman, P. (1993), "Regionalism versus Multilateralism: Analytical Notes" in *New Dimensions in Regional Integration*, (eds). J. de Melo and A. Panagariya, CUP, Cambridge.

Lee, J, Park, I. & Kwanho, S. (2004), "Proliferating Regional Trade Arrangements: Why and Whiter?", mimeo.

Lipsey, R. G. (1957), "The Theory of Customs Union: Trade Diversion and Welfare"- *Economica*, 24, 40-46.

Lipsey, R.G. (1957), "The theory of customs unions; trade diversion and welfare", *Economica* 24: 40-46.

Magee C. (2008), "New measures of trade creation and trade diversion", *Journal of International. Economics,* 75:340-62

Meade, J. (1955), *The Theory of Customs Union*, Amsterdam: North-Holland.

Narayanan, G. Badri & Terrie L. Walmsley (2008), "*Global Trade Assistance and Production: The GTAP Database"* (eds), Center for Global Trade Analysis, Purdue University.

Perry, G., Whalley, J. & McMahon, G., (2001), *Fiscal Reform and Structural Change in Developing Countries*, Palgrave-Macmillan, New-York.

Saxonhouse, G.R. (1994), "Trading blocs and East Asia", In Melo, J.D. and Panagariya, A. (eds): New Dimensions in Regional Integration, Cambridge University Press, Cambridge.

Panagariya, A. (1996), "The Free Trade Area of the Americas: Good for Latin America?" World Economy 19, no. 5, September, 485-515.

Panagariya, A. (2000), Preferential trade liberalization: traditional theory and new developments, *Journal of Economic Literature,* 38(2), 287–331.

Polaski, S.A., Kumar, G., McDonald, S, ROBINSON, S. (2008), *'India's Trade Policy Choices'*, Carnegie Endowment for International Peace, Washington D.C. Available via <http://www.carnegieendowment.org/files/india%27s_trade_policy_choices_final.pdf>

Pomfret, R. (1997), *The Economics of Regional Trading Arrangements,* Oxford: Clarendon Press.

Powell, S. (2008), 'The EU–FTA: Initial Observations from a Development Perspective', Traidcraft Exchange, London pp. 1-21. Available via <http://www.indianet.nl/pdf/EU-IndiaFTAInitialObservations.pdf>

Reimer, J & T. Hertel (2004), International Cross Section Estimates of Demand for Use in the GTAP model. GTAP Technical Paper no: 23, US: Centre for Global Trade Analysis.

Robinson, S. & K. Theirfelder (2002), "Trade Liberalisation and Regional Integration: The Search for Large Numbers," Australian Journal of Agricultural and Resource Economics, 46 (4): 585-604.

Summers, L., (1991), "Regionalism and world trading system" in Policy Implications of Trade and Currency - Proceedings of Symposium Sponsored by the Federal Reserve Bank of Kansas City, Wyoming, USA.

Viner, J. (1950), 'The Customs Union Issue', in J. Bhagwati, et al. (eds.) *Trading Blocks Alternative Approaches to Analysing Preferential Trade Agreements*, MIT Press, Cambridge.

Wonnacott P, & Lutz M. (1989), "Is there a case for free trade areas?" In *Free trade areas and U.S. trade policy,* (ed.) JJ Schott, Institute for International Economics: Washington, D.C, pp. 59-84.

Wonnacott, P. (1996), "Free-Trade Agreements: For Better or Worse?" *The American Economic Review* 86: 62-66.

World Trade Organisation (2009), RTA Database. Available at <http://rtais.wto.org/UI/PublicMaintainRTAHome.aspx>.

World Trade Organisation (2011), *World Tariff Profile*. Available via <http://stat.wto.org/TariffProfile/WSDBtariffPFExport.aspx?Language=E&Country=I>