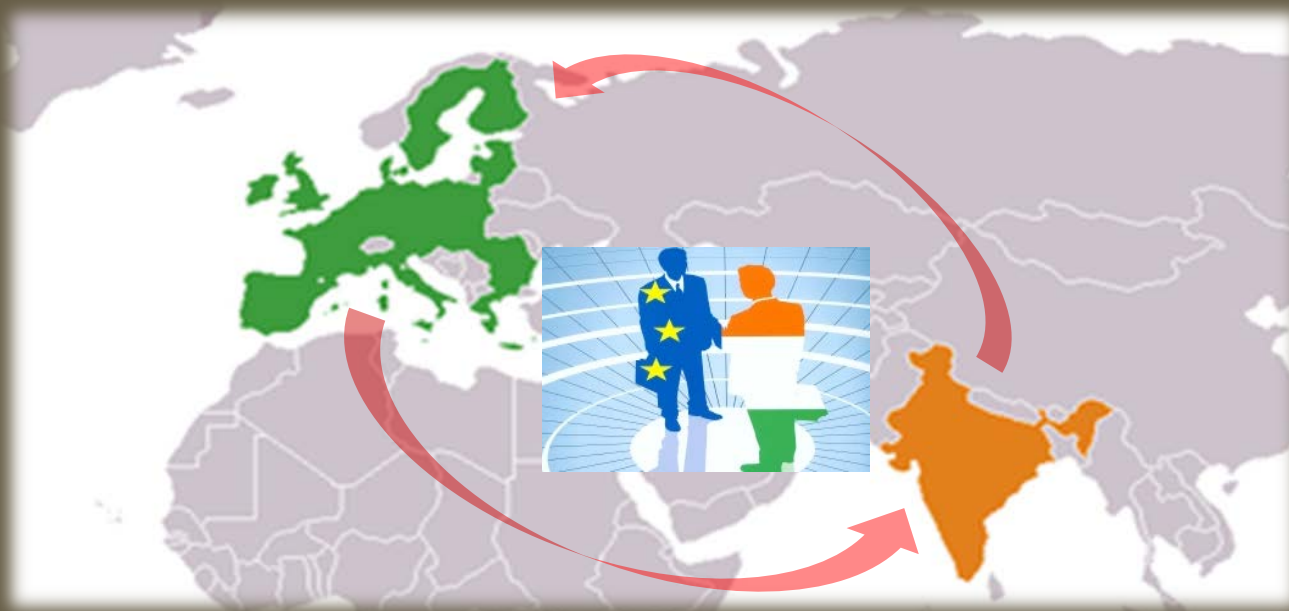# Macroeconomic effects of the proposed Free Trade Agreement between India and the European Union

Short Course in Dynamic Global Trade Analysis, Copenhagen July 2012
Aline Magalhães (Brazil); Christian Eickmann (Germany)

Agenda

Introduction

1

Introduction

"An increased EU-India cooperation will not only foster growth in the short term in both our continents, but will also create conditions towards a sustainable and more inclusive development in the long run."

José Manuel *Barroso*, President of the European Commission

- The EU and India annual bilateral summits have been held since 2000.
- India and the EU have been enjoying a privileged relationship since 2004 when they concluded a strategic partnership.
- Agreement on Free Trade will be concluded at the end 2012 !?

→ **The aim is measure the impacts of bilateral trade (elimination of all trade subsidies\taxes) between India and European Union.**

→ **In literature economic effects for India and the European Union unclear. The results report „ambiguous effects" and indicate contrary findings.**
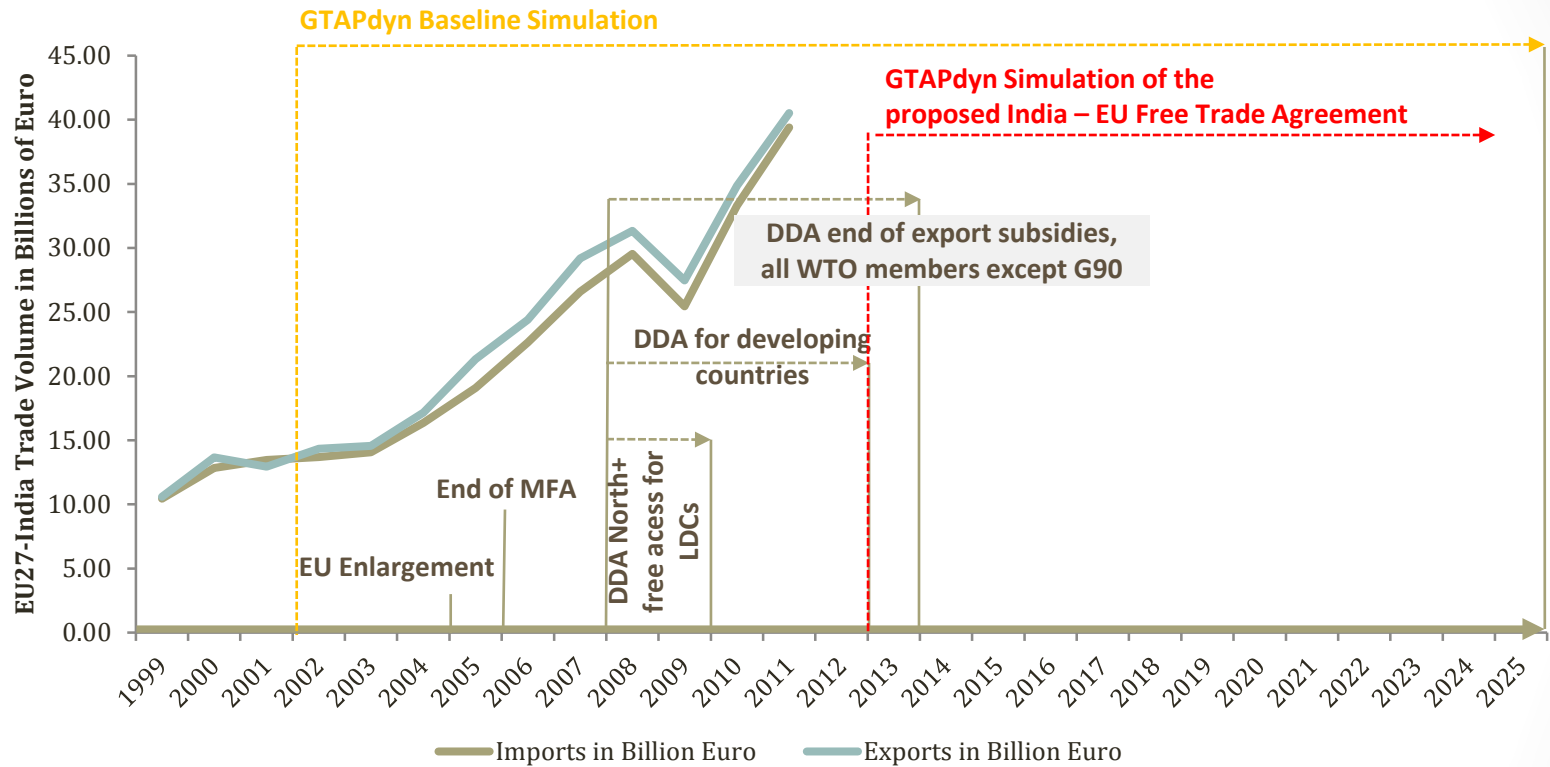
4

Model, Data & Closure

2

Introduction

- **Model**
  - **Dynamic GTAP** (GTAP-Dyn)
  - **2001 GTAP Version 6.2 with 12 Regions and 5 sectors**

- **Closure**
  - **Baseline standard setting: afereg endogenous to shock GDP**

    → **swap** qgdp = afereg;

6

Baseline Scenario

3

Baseline Scenario

1. To define the simulation baseline we applied the (tought) standard baseline shocks re:

    - Skilled and unskilled labour; GDP; Population.

2. To adjust the data regarding the EU 27 enlargement in 2004 we:

    - Removed all intra EU 27 trade subsidy/taxes

3. Due to a lack of specific information we did NOT incorporate policy changes after the EU enlargement.

8

Policy Shock

4

Implementing the shocks

Other than standard baseline shock:

Removing all intra EU import/export subsidies and taxes

⬇

EU 27 to EU 27

Exports		Imports	
Export Subsidy		**Import Tax**	
RTXS	rTXS	RTMS	rTMS
1 food	0.27%	1 food	1.47%
2 extract	0.00%	2 extract	0.06%
3 LghtMnf	0.00%	3 LghtMnf	0.47%
4 mnfc	0.00%	4 mnfc	0.27%
5 serv	0.00%	5 serv	0.00%

shock txs(TRAD_COMM,*"EU_27"*,*"EU_27"*) = **select from file** taxshks.har **header** *"RTXS"* ;

hock tms(TRAD_COMM,*"EU_27"*,*"EU_27"*) = **select from file** taxshks.har **header** *"RTMS"* ;

Policy shock:

Removing all India - EU 27 import/export subsidies and taxes

⬇

India to EU

Exports		Imports	
Export Tax		**Import Tax**	
RTXS	rTXS	RTMS	rTMS
1 food	0.00%	1 food	12.20%
2 extract	0.00%	2 extract	0.15%
3 LghtMnf	-5.48%	3 LghtMnf	6.86%
4 mnfc	0.00%	4 mnfc	0.56%
5 serv	0.00%	5 serv	0.00%

shock txs(TRAD_COMM,*"India"*,*"EU_27"*) = **select from file** taxpshocks1.har **header** *"RTXS"* ;
shock txs(TRAD_COMM,*"EU_27"*,*"India"*) = **select from file** taxpshocks1.har **header** *"RTXS"* ;

shock tms(TRAD_COMM,*"India"*,*"EU_27"*) = **select from file** taxpshocks1.har **header** *"RTMS"* ;
shock tms(TRAD_COMM,*"EU_27"*,*"India"*) = **select from file** taxpshocks1.har **header** *"RTMS"* ;

Policy shock:

Removing all EU 27-India import/export subsidies and taxes

⬇

EU to India

Exports		Imports	
Export Subsidy		**Import Tax**	
RTXS	rTXS	RTMS	rTMS
1 food	3.58%	1 food	51.10%
2 extract	0.00%	2 extract	15.30%
3 LghtMnf	0.00%	3 LghtMnf	27.80%
4 mnfc	0.00%	4 mnfc	30.30%
5 serv	0.00%	5 serv	0.00%

Results

5

Results – what do we expect for 2020?

Relative to baseline - A Free Trade Agreement between India and the European Union will lead to…?
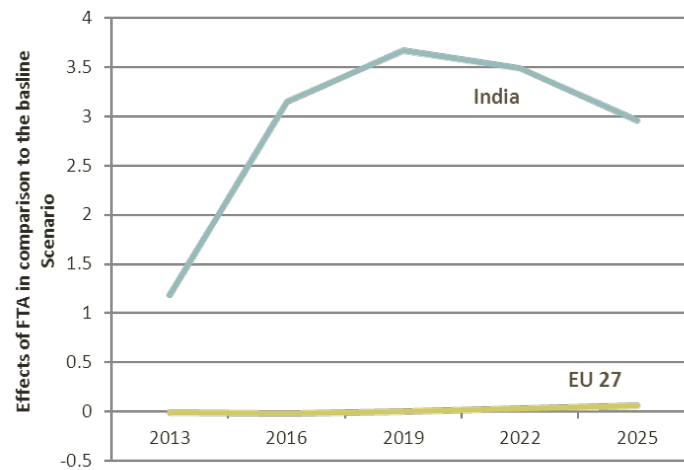
↓ ↑ → ?	India	EU
GDP		
ROR		
Qk		
Prices		
Real Quantities		

Flipchart

Effects on GDP

The GDP in EU27 and India is positively impacted on the medium run.

Significant positive effects are likely to occur in India and especially in the Transformation phase.
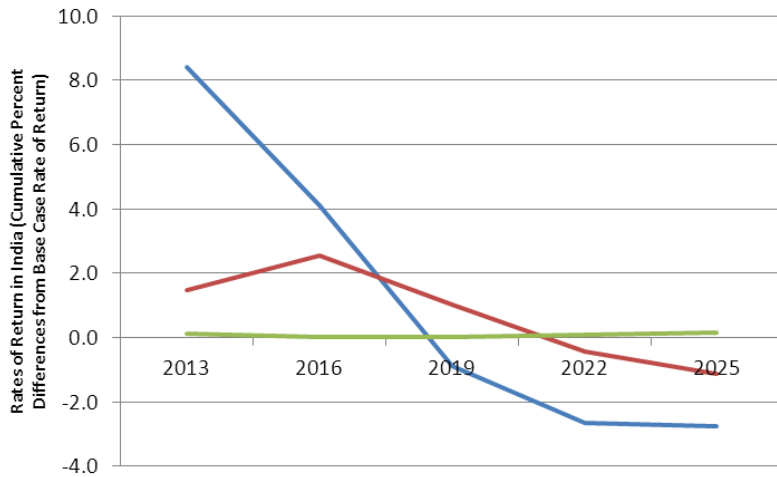
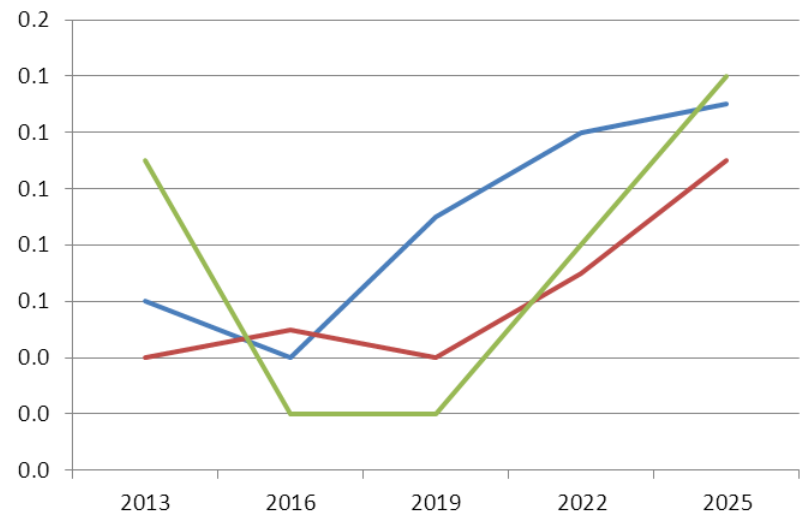| qgdp(D)	2013	2016	2019	2022	2025
5 India	1.19	3.15	3.67	3.49	2.96
9 EU_27	-0.01	-0.02	0	0.03	0.06

Effects on Rate of Return

The FTA will trigger decreasing Rates of Return in India and Increasing Rates of Return in Europe.

Rate of Return in India

Rate of Return in Europe

Target Rate of Return

Expected Rate of Return

Actual Rate of Return

14

Effects on Investments and capital stock

The FTA will trigger significant investments and an increase in capital Stock in India.

Investments qcdgs
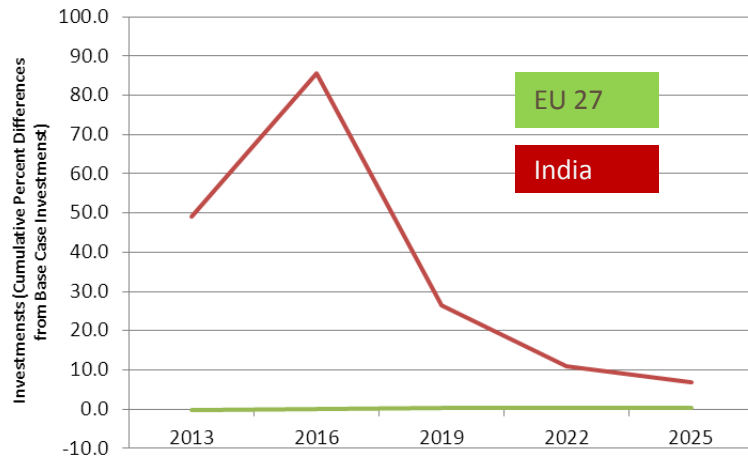
Capital stock
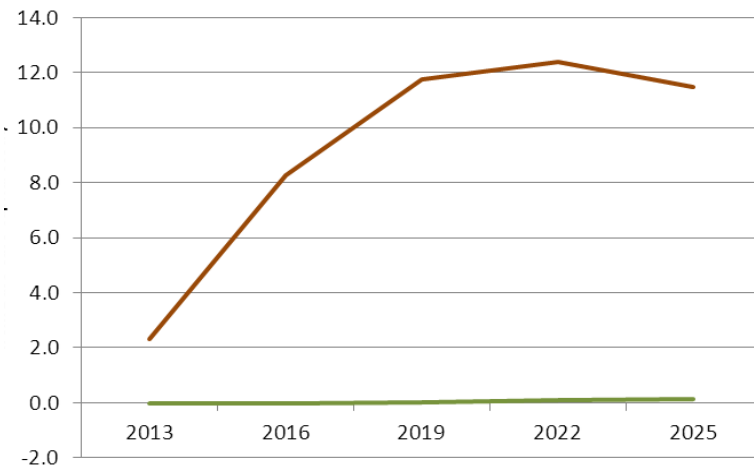
Investments	2013	2016	2019	2022	2025
qcgds	49.07	85.73	26.58	10.89	6.78

Capital Stock	2013	2016	2019	2022	2025
qk	2.31	8.24	11.76	12.39	11.48

15

Effects on Prices and (real) output quantities

The analysis supports the finding of ambiguous effects on the economy.

Developments of real prices

pm(D)	5 India	9 EU_27
1 Land	8.86	0.51
2 UnSkLab	4.6	0.43
3 SkLab	2.09	0.46
4 Capital	-7.48	0.31
5 NatRes	1.1	-0.01
6 food	1.55	0.15
7 extract	0.57	0.04
8 LghtMnfc	-1.72	-0.17
9 mnfc	-3.38	0.16
10 serv	-2.3	0.27
11 CGDS	-4.87	0.18

qo from GTAP output adjusted by price effects

qo (real)	5 India	9 EU_27
6 food	2.89	-0.54
7 extract	0.08	-0.01
8 LghtMnfc	34.71	-3.89
9 mnfc	-4.14	0.78
10 serv	4.05	0.05
11 CGDS	7.13	0.34

Rental prices and labour prices increases significantly more than food prices what adversely impacts farmers.

SkLab and UnSkLab wage increases more than food prices and prices of manufactured goods. This favours the urban work force

Production Volume of Light Manufacturing Goods in India increased dramatically. Reasoning behind is India´s compatitive advantage of low labour costs after the removal of trade barriers.

EU and India´s low cost competitors loose production volume due lower production costs in India.

Heavy Manufacturing volume decreased due to the comparable low productivity in India.

16

Appendix

Appendix 1 - Global effects on GDP

qgdp(D)	2013	2016	2019	2022	2025
1 Oceania	-0.02	-0.02	-0.02	-0.04	-0.06
2 China	-0.04	-0.15	-0.24	-0.26	-0.22
3 EastAsia	-0.02	-0.04	-0.06	-0.07	-0.08
4 SEAsia	-0.04	-0.16	-0.21	-0.17	-0.11
5 India	1.19	3.15	3.67	3.49	2.96
6 SouthAsia	-0.13	-0.31	-0.46	-0.55	-0.57
7 NAmerica	-0.01	-0.04	-0.05	-0.05	-0.05
8 CSAmerica	-0.04	-0.12	-0.17	-0.18	-0.16
9 EU_27	-0.01	-0.02	0	0.03	0.06
10 Turkey	-0.05	-0.29	-0.52	-0.69	-0.78
11 Africa	-0.07	-0.05	-0.09	-0.16	-0.19
12 RestofWorld	-0.02	-0.03	-0.02	-0.01	-0.02

Appendix 1 - Global effects on prices and quantities

pm(D)	5 India	9 EU_27	1 Oceania	2 China	3 EastAsia	4 SEAsia	6 SouthAsia	7 NAmerica	8 CSAmerica	10 Turkey	11 Africa	12 RestofWo
1 Land	8.86	-0.51	0.06	-0.54	-0.05	0.1	-0.91	-0.04	-0.18	-0.8	-0.2	0.07
2 UnSkLab	4.6	0.43	-0.23	-0.37	-0.21	0.01	-1.44	-0.12	-0.11	-1.37	-0.33	0.02
3 SkLab	2.09	0.46	-0.24	-0.23	-0.21	0.08	-1.42	-0.11	-0.07	-1.19	-0.28	0.02
4 Capital	-7.48	0.31	-0.1	0.24	-0.05	0.27	-0.34	0.03	0.17	0.04	0.07	0.08
5 NatRes	1.1	-0.01	-0.36	-0.36	-0.36	-0.49	-1.21	-0.28	-0.37	-0.3	-0.3	-0.19
6 food	1.55	0.15	-0.17	-0.25	-0.16	-0.06	-0.81	-0.08	-0.06	-0.53	-0.14	0.01
7 extract	0.57	0.04	-0.33	-0.33	-0.31	-0.41	-1.15	-0.24	-0.32	-0.34	-0.26	-0.14
8 LghtMnfc	-1.72	-0.17	-0.21	-0.18	-0.18	-0.17	-0.68	-0.12	-0.06	-0.37	-0.16	-0.07
9 mnfc	-3.38	0.16	-0.21	-0.2	-0.17	-0.16	-0.48	-0.12	-0.1	-0.26	-0.18	-0.04
10 serv	-2.3	0.27	-0.18	-0.17	-0.16	-0.04	-0.82	-0.08	-0.01	-0.49	-0.11	-0.01
11 CGDS	-4.87	0.18	-0.17	-0.17	-0.16	-0.1	-0.63	-0.1	-0.05	-0.23	-0.09	0.01

qo (real)	5 India	9 EU_27	1 Oceania	2 China	3 EastAsia	4 SEAsia	6 SouthAsia	7 NAmerica	8 CSAmerica	10 Turkey	11 Africa	12 RestofWo
6 food	2.89	-0.54	0.14	-0.15	0.05	-0.01	0.01	0.01	-0.11	-0.02	-0.01	0.02
7 extract	0.08	-0.01	-0.01	0.00	-0.01	-0.01	-0.01	0.00	-0.01	0.01	-0.01	-0.01
8 LghtMnfc	34.71	-3.89	-0.31	-1.61	-0.23	-1.90	-1.67	-0.43	-0.99	-5.50	-1.99	-0.88
9 mnfc	-4.14	0.78	0.08	-0.06	-0.11	-0.53	-0.64	-0.11	-0.09	0.15	-0.19	0.09
10 serv	4.05	0.05	-0.09	-0.08	-0.07	-0.02	-0.52	-0.03	-0.13	-0.49	-0.24	-0.03
11 CGDS	7.13	0.34	-0.44	0.07	-0.34	0.47	-1.61	-0.22	-0.14	-2.89	-0.67	-0.16