

DDA Group

22nd GTAP Short Course

West Lafayette, IN

August 2-8, 2014

Main introduction

Doha Application

- Focuses on the impacts of the Doha Round on Egypt
 - Peter Minor
- Aggregation used
 - GTAP v6 2001 Database
 - Aggregated to 12 regions and 26 sectors
 - Updated with key protection data

FTA in a CGE Framework

- Approach taken in application
 - Allow unemployment in non-developed countries (fix real wages)
 - Exclude US, EU, and Japan
 - Fix trade balance in developing countries
 - Exclude developed countries & Asian giants (China and India)
 - Market access liberalization
 - Modelling of DDA using CEPII estimates
 - CEPII Doha Database (Estimates of Proposed Doha tariff cuts)

Key issues

- Overall findings of original application
 - DDA will modestly impact Egypt overall
 - Agricultural impacts arise primarily from events outside Egypt's borders
 - Manufacturing impacts arise largely from Egypt's own Doha liberalization
- Key issue: It's important to set up the simulation and database appropriately
 - Many alternative simulations can be explored from this starting point

Overview of Presentations

- Sensitivity of results to alternative closures
 - Dmitry and Oleksandr
- Comparison against an Egypt-EU FTA
 - Petter and Olle
- Analyze the impact of DDA on LDCs
 - Amadou and Giovanni
- Full liberalization of all agriculture trade all countries
 - Zeynep and Peter
- US and China: Alternative labor closures
 - Yingying and Natalie

Sensitivity of results to alternative closures

Dmitry and Oleksandr

How robust are Peter Minors' results on Doha's impact on Egypt to GTAP "closure" assumption?

Dmitry Lysenko and Oleksandr Odosii

2014 GTAP short course

Purdue University

Research question

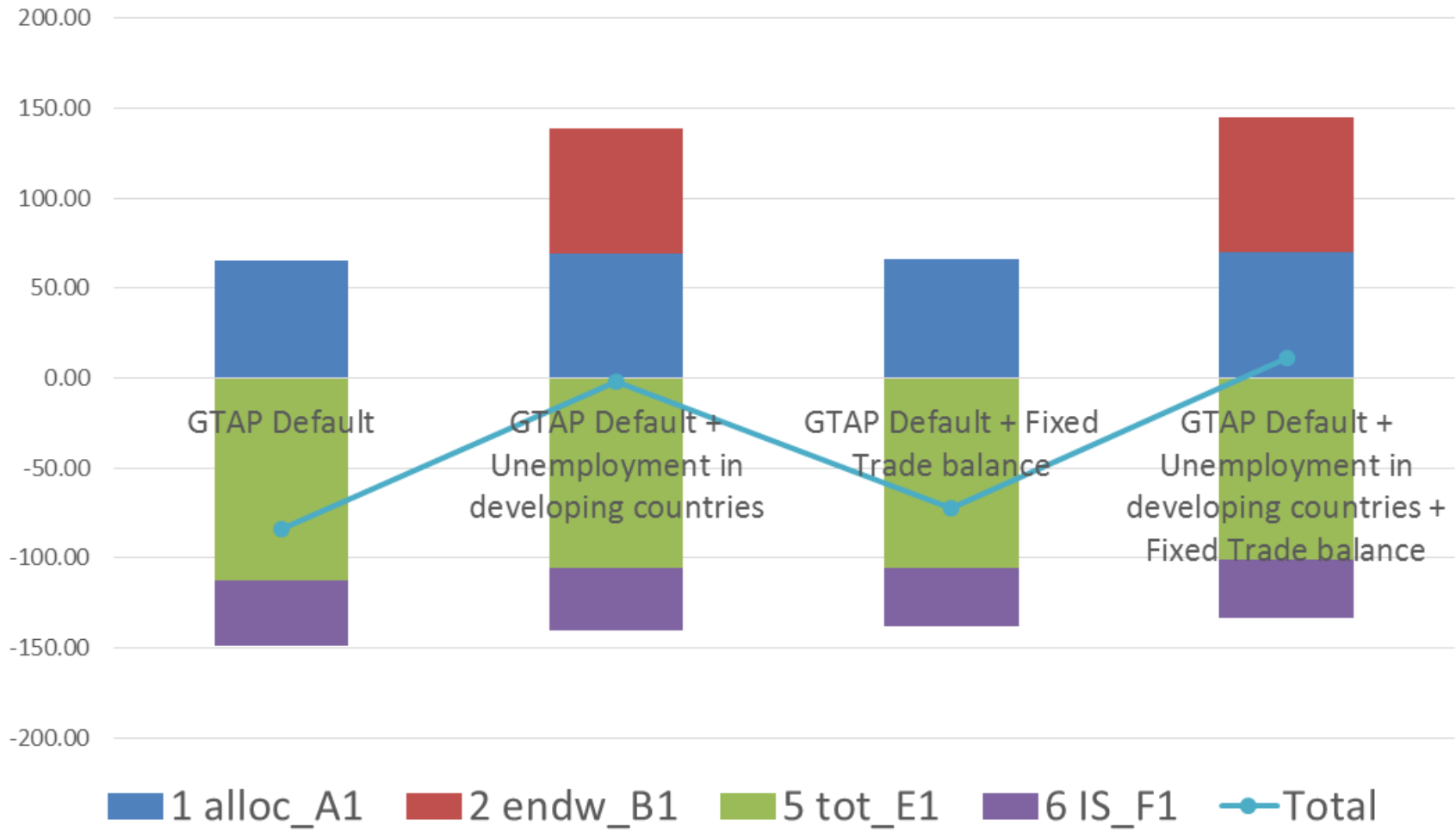
- Closure is one of the key assumptions in CGE
- Simulation results may be very sensitive to closure in some application
- How sensitive is impact of Doha on Egypt simulated by Peter Minor?

	GTAP Default	Labor closure	Fixed trade balance closure	Labor and fixed trade balance closure
Welfare (\$ US million)	-83.86	-1.94	-72.09	11.03
GDP (%)	0.08	0.17	0.08	0.18
Trade balance (\$ US million)	91.29	70.33	53.77	45.12
Exports volume	1.70	1.68	1.49	1.55
Imports volume	0.25	0.36	0.32	0.41
Export price	-0.69	-0.65	-0.65	-0.62
Unskilled labor (%)	0.00	0.26	0.00	0.28

Welfare changes under alternative closures

	GTAP Default (1)	Labor closure (2)	(2)-(1)	Fixed trade balance closure (3)	(3)-(1)
1 CENTAM	621	1359	738	476	-145
2 China	4197	10811	6614	4205	8
3 Egypt	-84	-2	82	-72	12
4 EU	3267	3130	-137	3386	118
5 India	751	1912	1162	755	4
6 Japan	9781	9688	-93	9827	46
7 LDC	-507	-731	-224	-425	83
8 MERCOSUR	2044	2840	797	1731	-313
9 MEXICO	-470	-1065	-595	-413	57
10 ROW	10238	27315	17077	10279	41
11 USA	-1355	-1283	72	-1268	87
12 XME	-298	-56	242	-294	3
Total	28184	53919	25735	28187	3

The sources of welfare benefits and costs



	Baseline output share	Output impact – Default closure	Output impact - Labor closure
Other Srvs	0.162	0.29	0.4
Trade and Finance Srvs	0.142	-0.07	0.05
Transport and Communication	0.102	0.68	0.74
Construction	0.07	-0.24	-0.12
Food	0.07	0.08	0.18
Energy	0.058	0.05	0.14

Conclusions

- Results are very sensitive to labor supply constraint but not to trade balance constraint
- No competition for labor among sectors allows each of them to grow
- Immigration and flexible market policies are important complements for trade liberalization

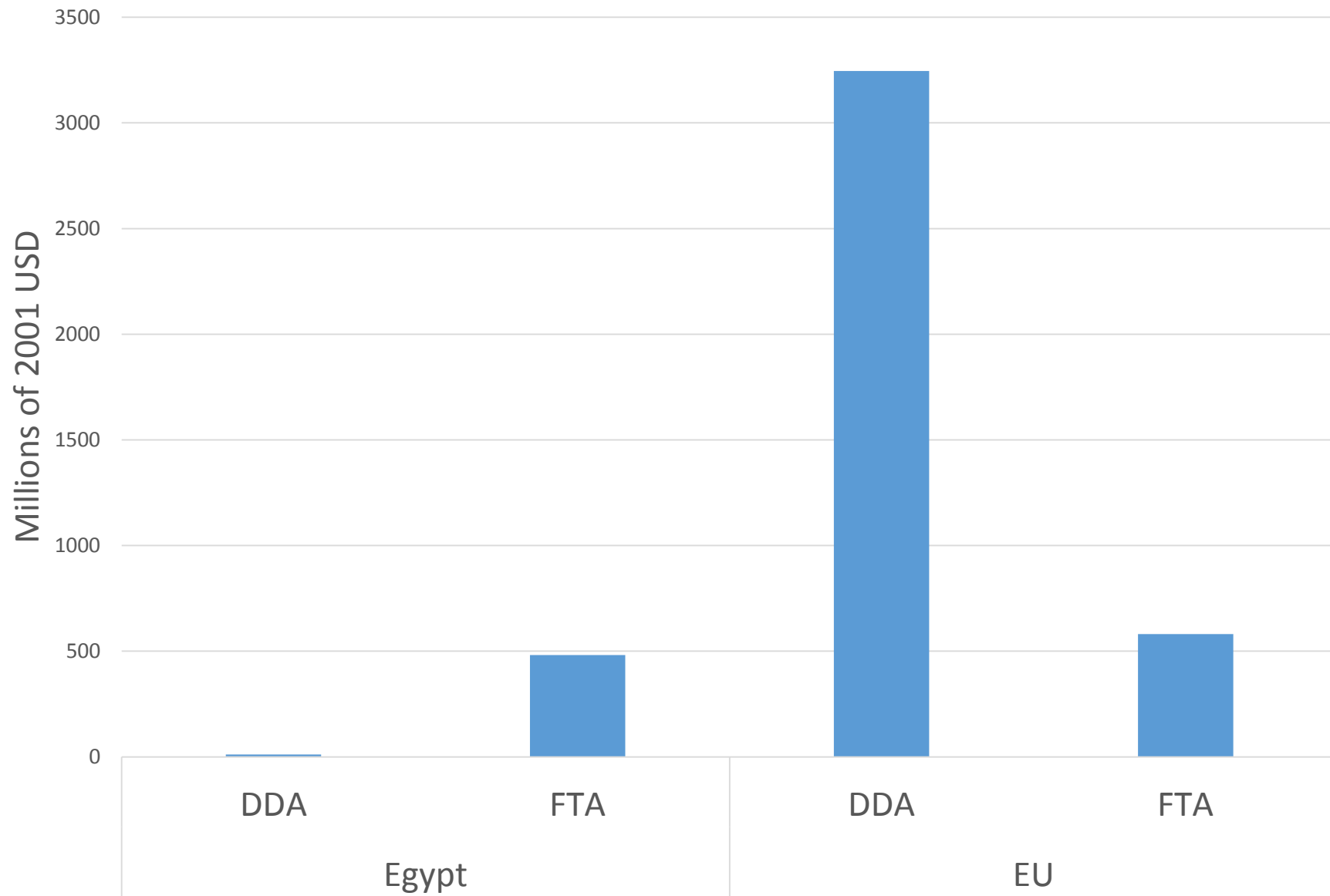
Comparison against an Egypt-EU FTA

Petter and Olle

Egypt-EU FTA

- DDA is not making progress
- Adding to the spaghetti bowl
- Effects of Egypt-EU full tariff liberalization
- Difference between DDA vs. Egypt-EU FTA
- Focusing on welfare effects
- Better or worse for Egypt?

Welfare effects for Egypt and the EU



Decomposition of welfare impacts DDA vs. Egypt-EU tariff liberalization

	Allocative Efficiency		Endowment Effects		Terms of Trade Effects		Investment - Savings Effects		Total Welfare Effect	
	Doha	Egypt-EU	Doha	Egypt-EU	Doha	Egypt-EU	Doha	Egypt-EU	Doha	Egypt-EU
Egypt	70	204	74	584	-101	-199	-33	-107	11	482
EU	6602	54	0	0	-3510	504	154	23	3246	581

Remarks

- Welfare effect for Egypt explained by
 - Closure
 - Allocative efficiency
- Better or worse for Egypt?

Analyze the impact of DDA on LDCs

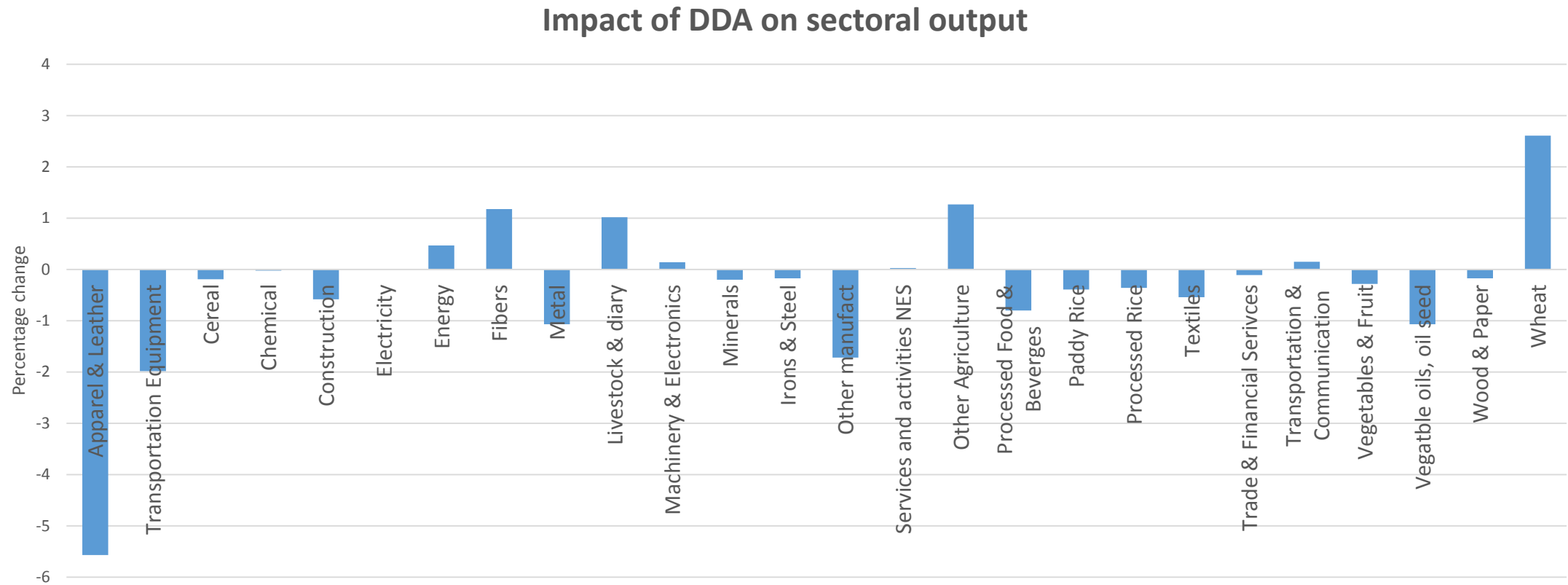
Amadou and Giovanni

WHAT ARE LDCs?

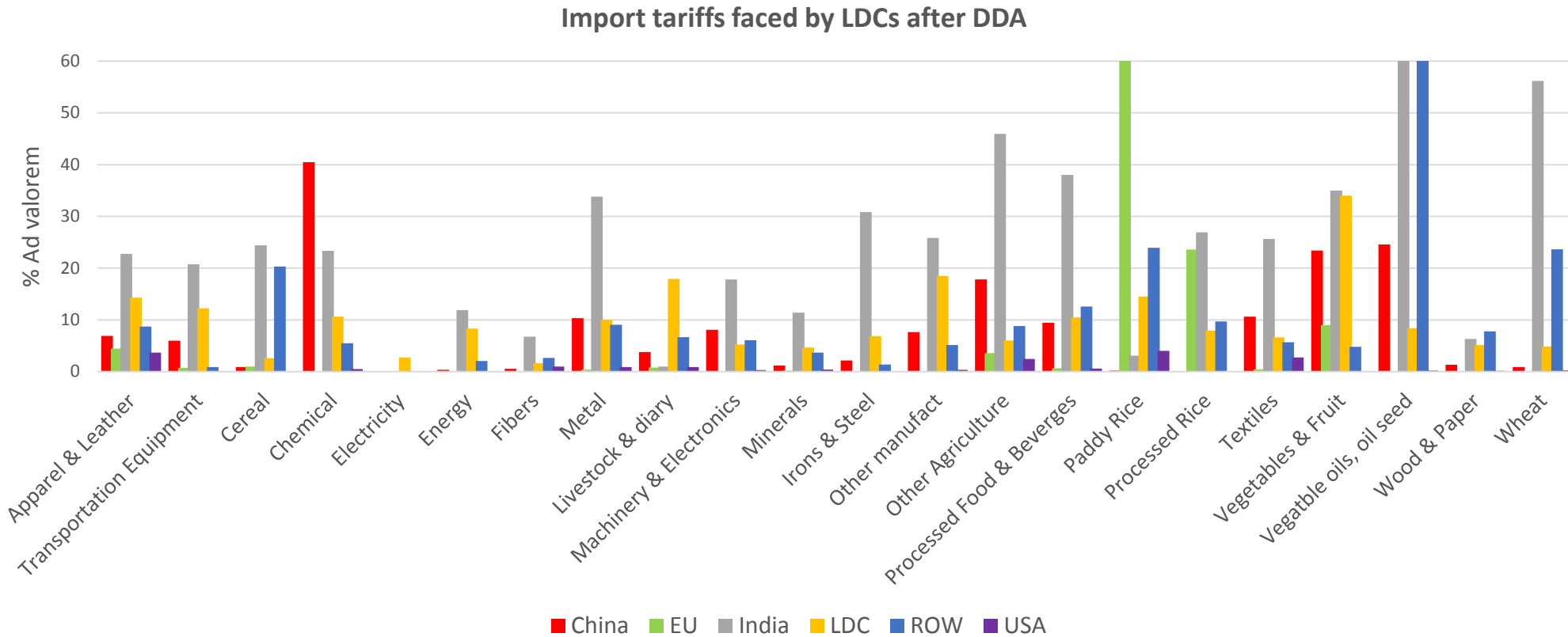
- A group of 49 developing countries classified by the UN as structurally vulnerable (3 criteria: GNI per capita, Human Asset, Economic Vulnerability) .
- Within the WTO they benefit from enhanced Special and Differential Treatment, i.e. additional flexibilities, longer transition periods, etc.
- The LDCs account for less than 2 per cent of world GDP and around 1 per cent of world trade.

IMPACT OF DDA ON LDCs

- Overall negative welfare effects on LDCs' EV (due mainly to allocative, endowment and ToT); out of subtotals used by the author only the removal of agro tariffs would have a positive effect on LDCs' EV.
- The effect on GDP and UnSkLab is adverse ($q_{gdp} = -0.15$; $q_0 = -0.23$).



A SDT PROPOSAL FOR LDCs

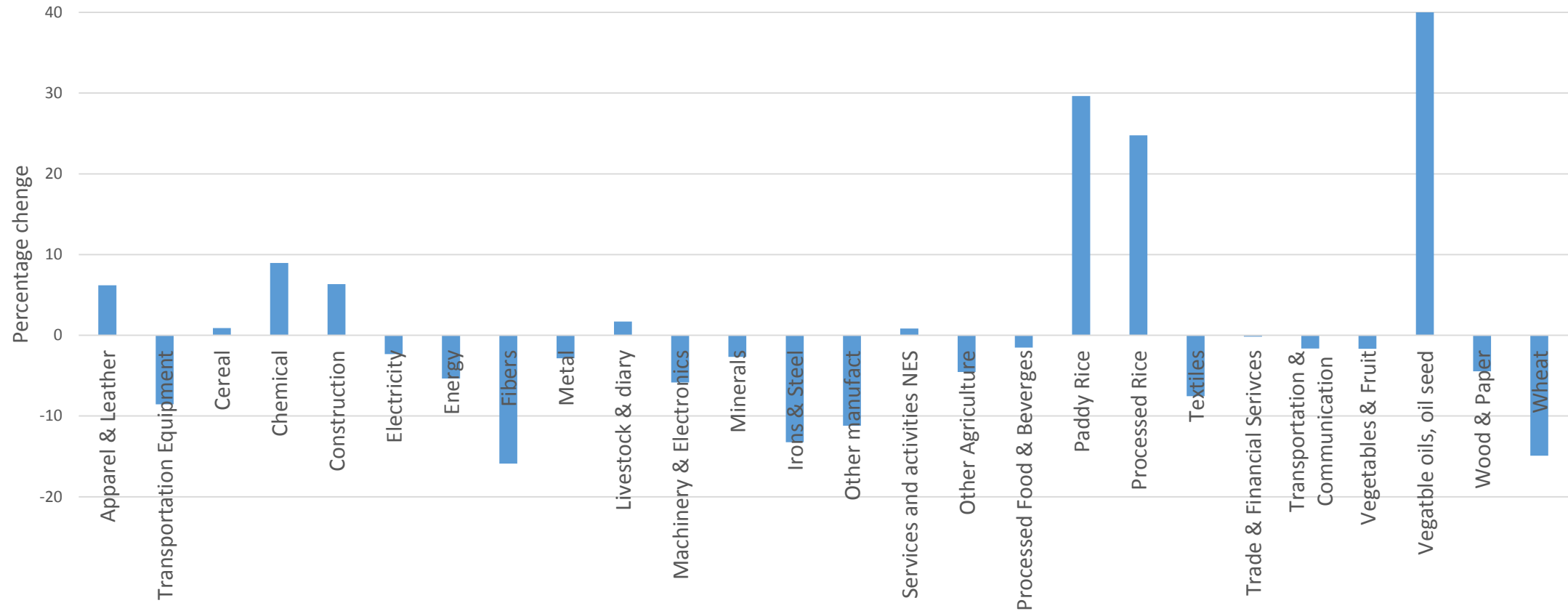


- We take DDA scenario (without sensitive products) from Minor 2006 as our baseline
- We model “on top of it” DF treatment by ALL regions to exports originating in LDCs ($tms_{TRADE_COMM,LDC,REG} = 0$)
- Same closures as in the original model: fixed trade balance for developing countries (except China & India); endogenous employment of unskilled L in developing countries

IMPACT OF DF TREATMENT OF LDC EXPORTS

- Overall welfare effect of DF shock enhances LDCs' EV, due mainly to ToT and to a lower extent to allocative, and endowment;
- Subtotals show that the granting of DF by ROW accounts for a significant component of welfare improvements (esp. for endowment component).
- For other regions DF would have a mixed effect: negative in EU, Japan, USA and Mercosur (adverse ToT), and positive elsewhere.
- In the LDCs real GDP (qgdp) + 1.84%, in other region the impact is also positive but very small < 0.06% (LDCs account for a limited share of world GDP).
- In the LDCs the supply of unskilled L $q_0(\text{UnSkLab})$ increases by + 3.16.
- Exports expands in relatively large sectors but shrinks slightly in others.

IMPACT OF DF TREATMENT ON LDCs



- At sectoral level there is a complex story due to inter-play of tariff liberalization and change in specialization pattern.
- There is a significant expansion of exports in some large labour-intensive sectors, such as apparel, construction, livestock, rice (Asian LDCs?).
- Looking at factor P, price of land rises a lot relatively to unskilled L (closure).

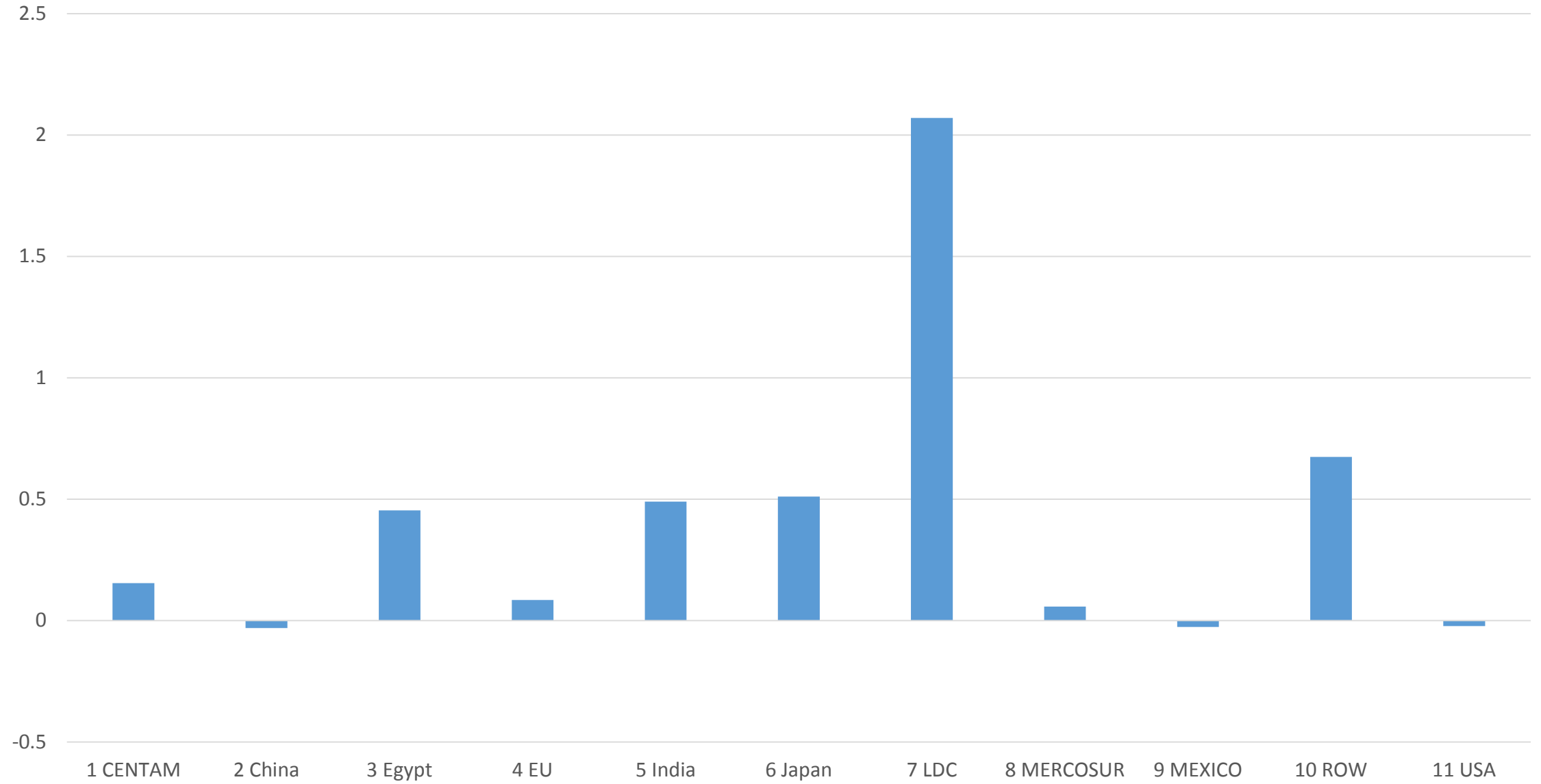
Full liberalization of all agriculture trade all countries

Zeynep and Peter

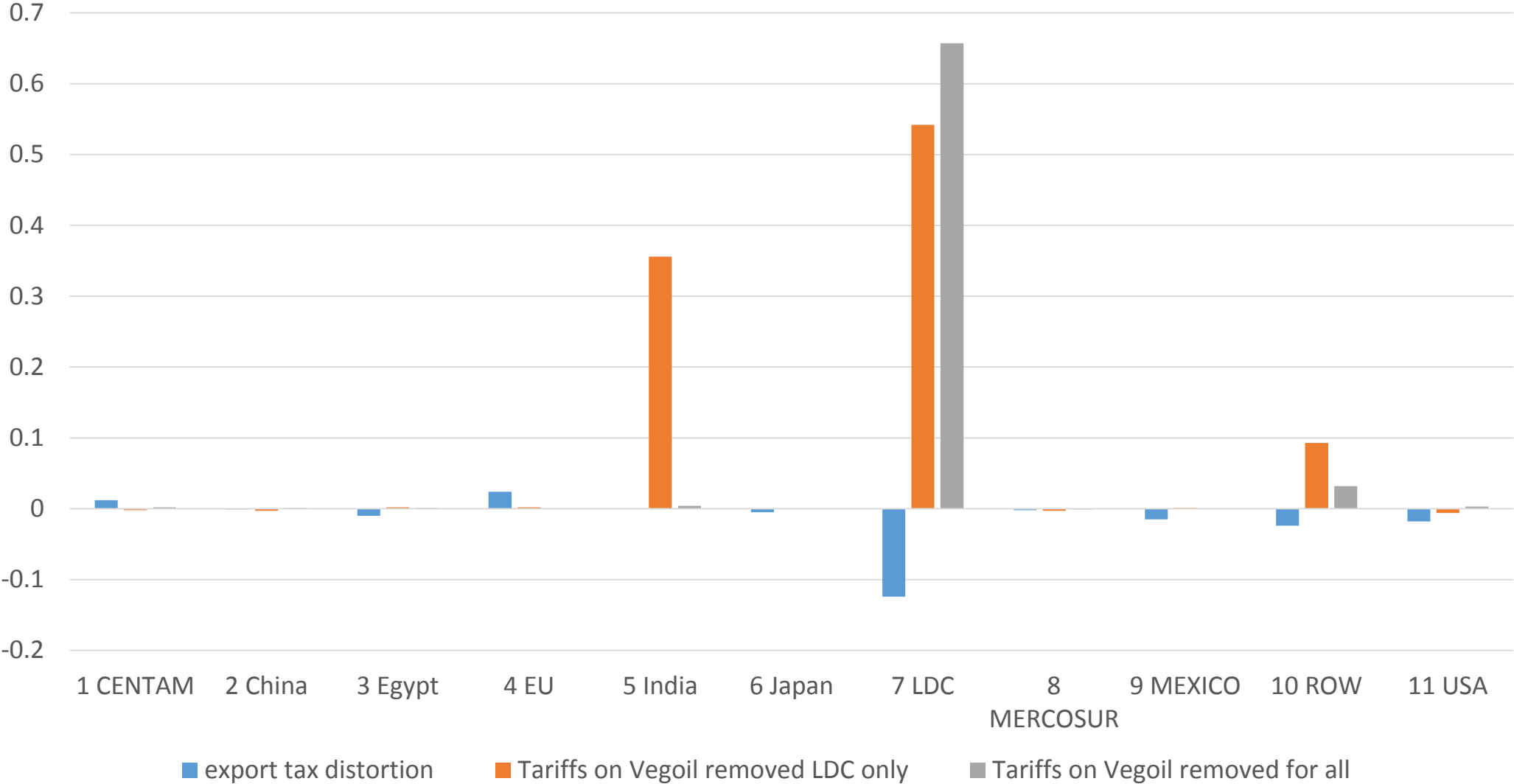
Full liberalization of all agriculture trade all countries

- Allowing trade to adjust
- Fixing wages and allowing unemployment to adjust only in LDCs
- What we're interested in – outcomes:
 - Compared with Doha
 - GDP
 - Trade flows
 - Welfare impacts on LDCs

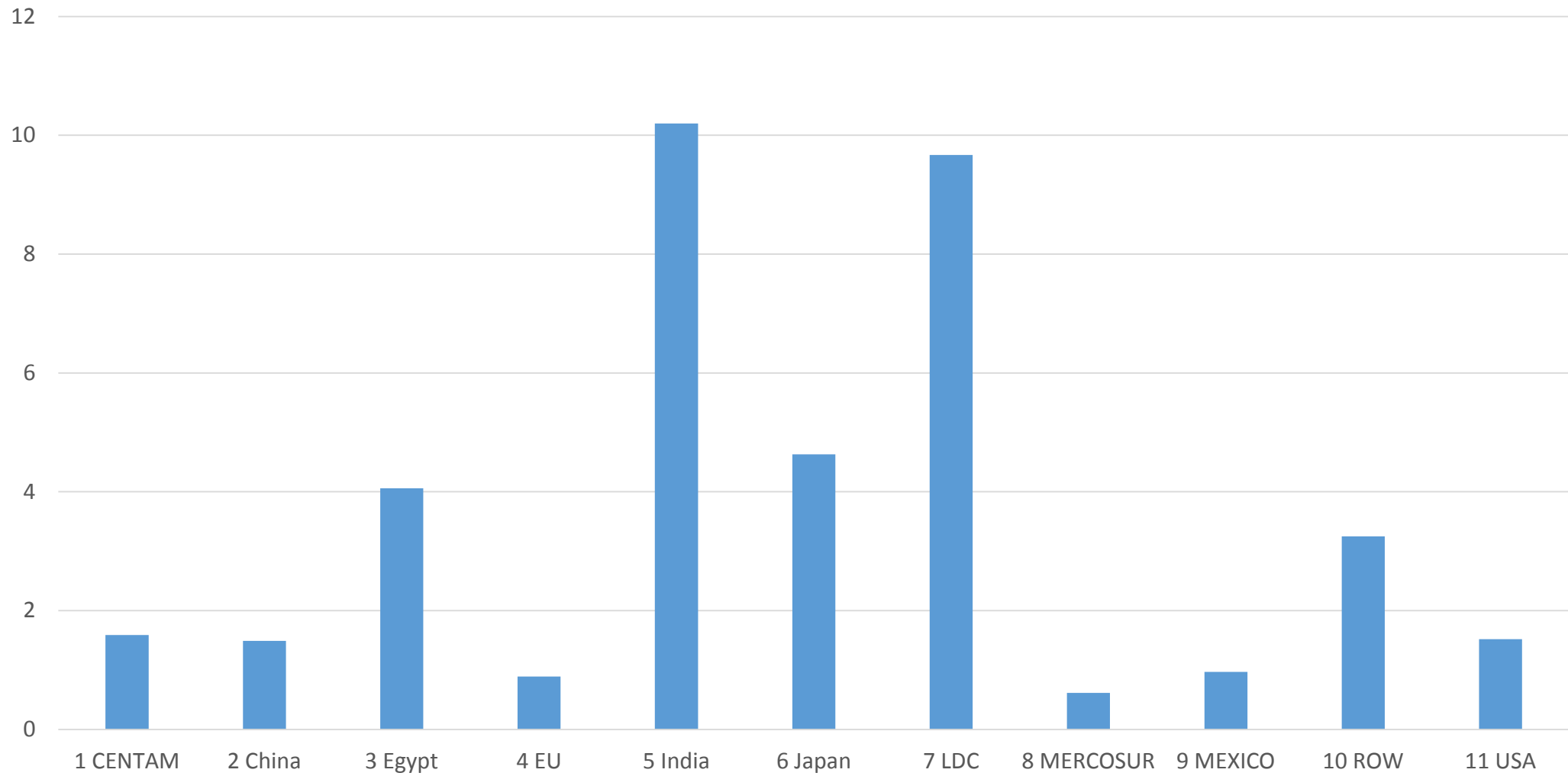
Real GDP from Liberalising Ag trade only



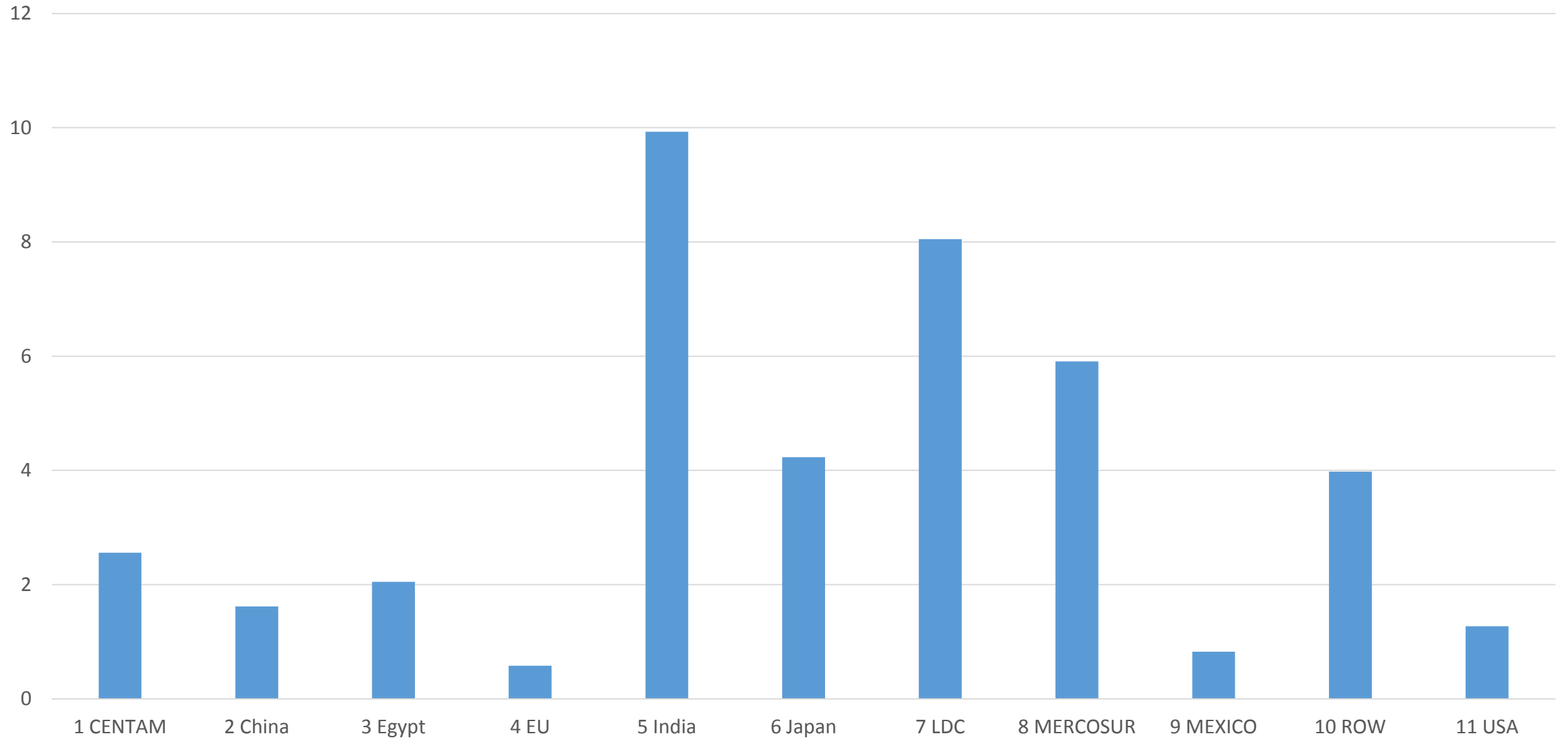
Export subsidies on Ag and Veg Oil import tariff subtotals



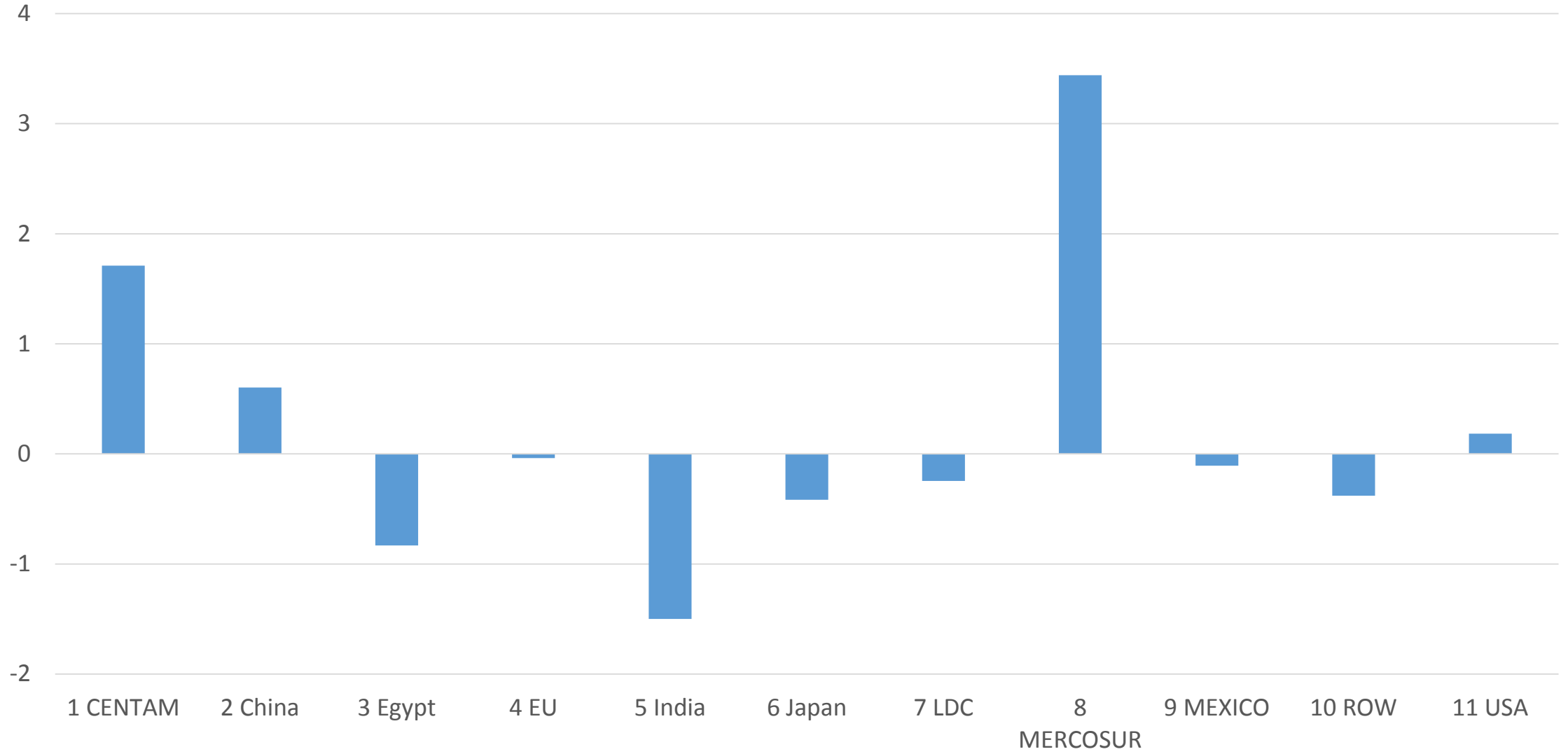
Volume of exports



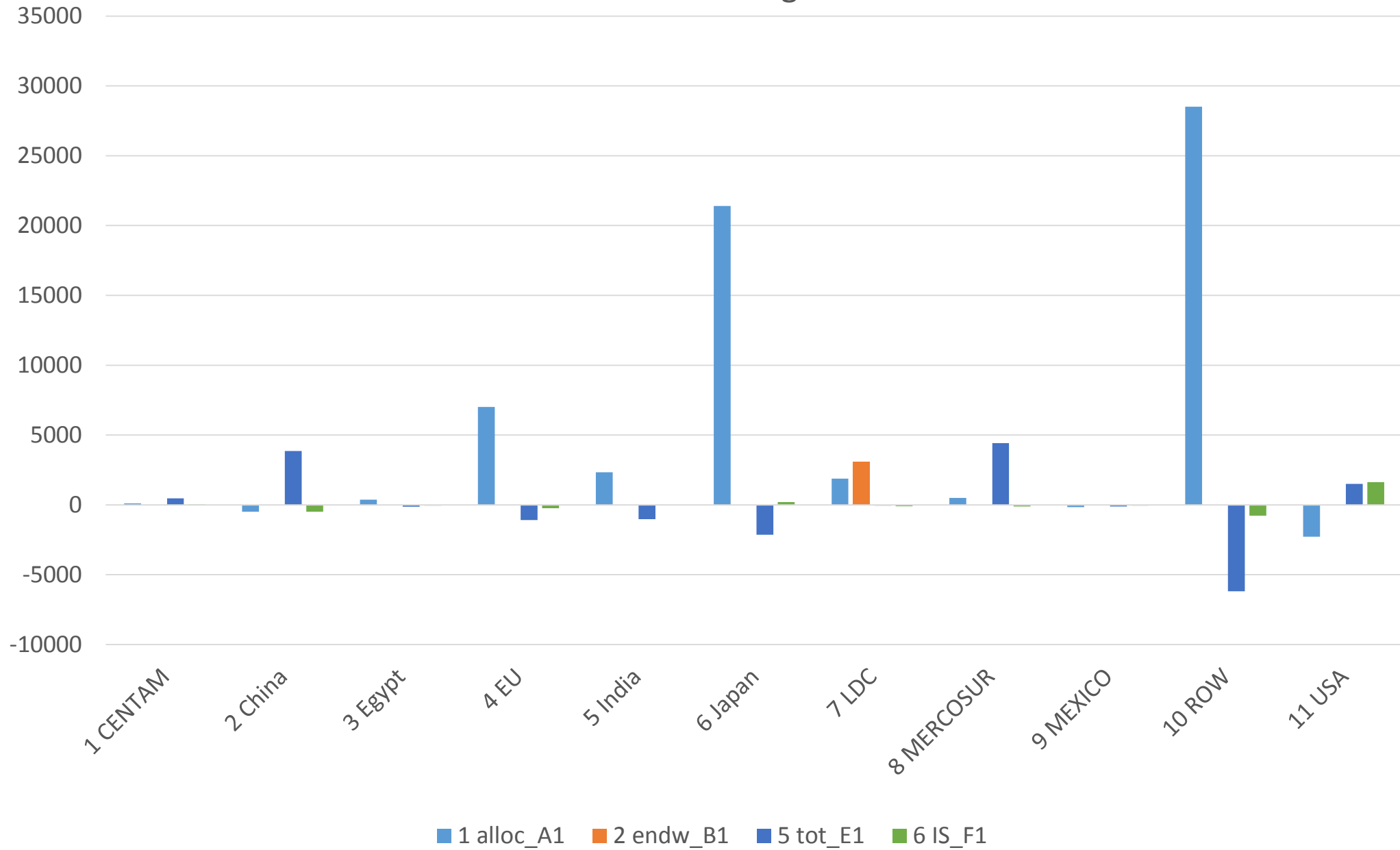
Volume of imports



Terms of Trade



Welfare changes



US and China: Alternative labor closures

Yingying and Natalie

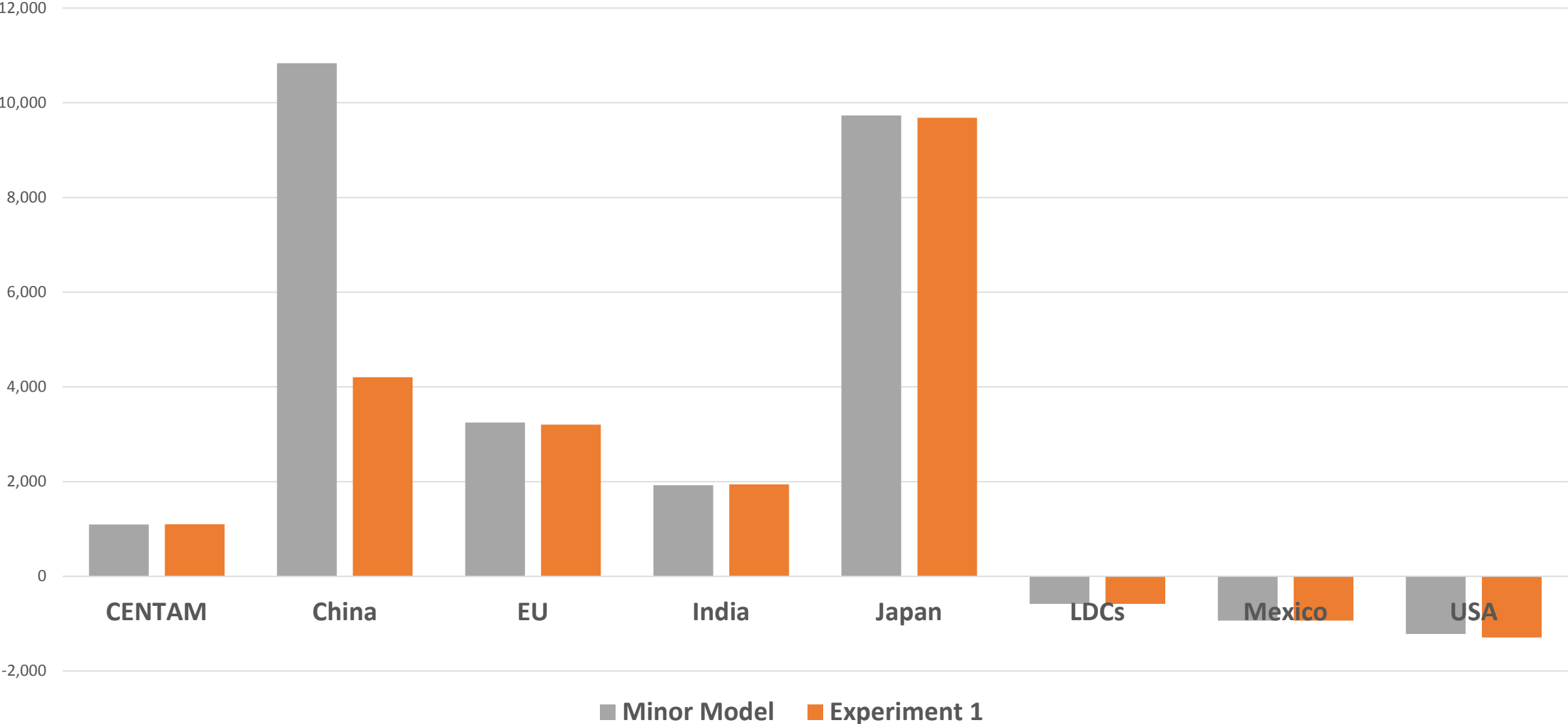
Alternative Labor Supply Scenario in Trade Liberalization

- Experiment 1: Examine the impact of full employment conditions in a developing country within a trade liberalization scenario.
- Experiment 2: Further examination of the international spillover impact of a large unskilled labor supply shock in a developing country under trade liberalization.

Initial Approach (Experiment 1)

- Kept trade liberalization measures outlined by Doha recommendations
- Assumed full employment within China (in addition to the US, EU, and Japan)

Experiment 1 Results: Welfare Impact by Region



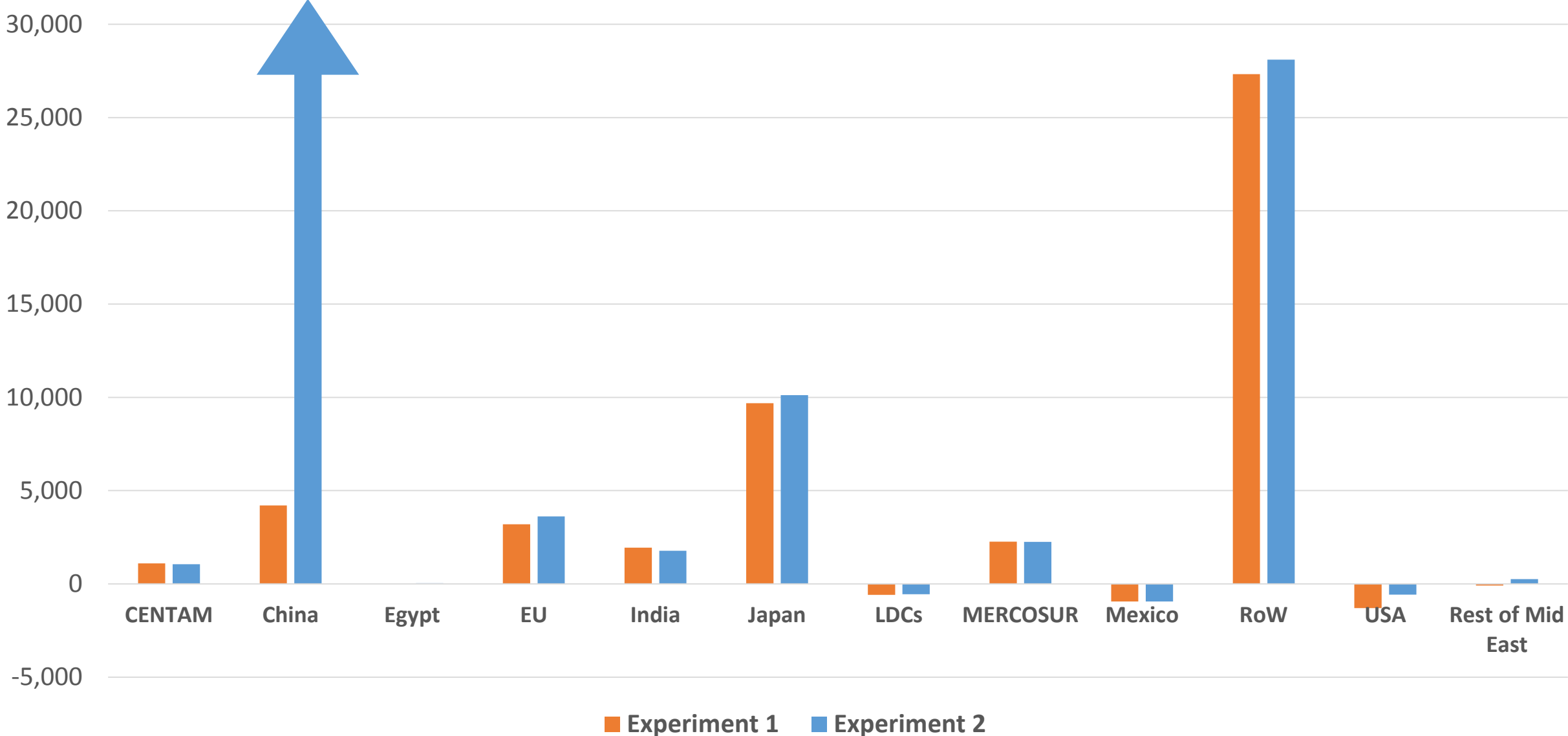
Experiment 1 Results, Compared to Minor

- Overall Chinese welfare effect of trade liberalization is more muted
 - Still overall positive
- Negligible price difference
 - Unskilled labor supply varied by only 1% from the Minor paper's model
 - Even when allowing for full employment, production changes very little
- Small spillover impacts into international market
- Model doesn't leave much room for employment in developing countries to impact overall welfare for developed countries

Experiment 2: Shock Unskilled Labor in China

- Would a significant shock in labor in a developing country be able to have spillover impact?
- Experiment:
 - Keep framework from Case 1 (full employment in China and developed markets)
 - Add a 10% shock to unskilled labor supply in China

Experiment 2 Results: Welfare Impact by Region

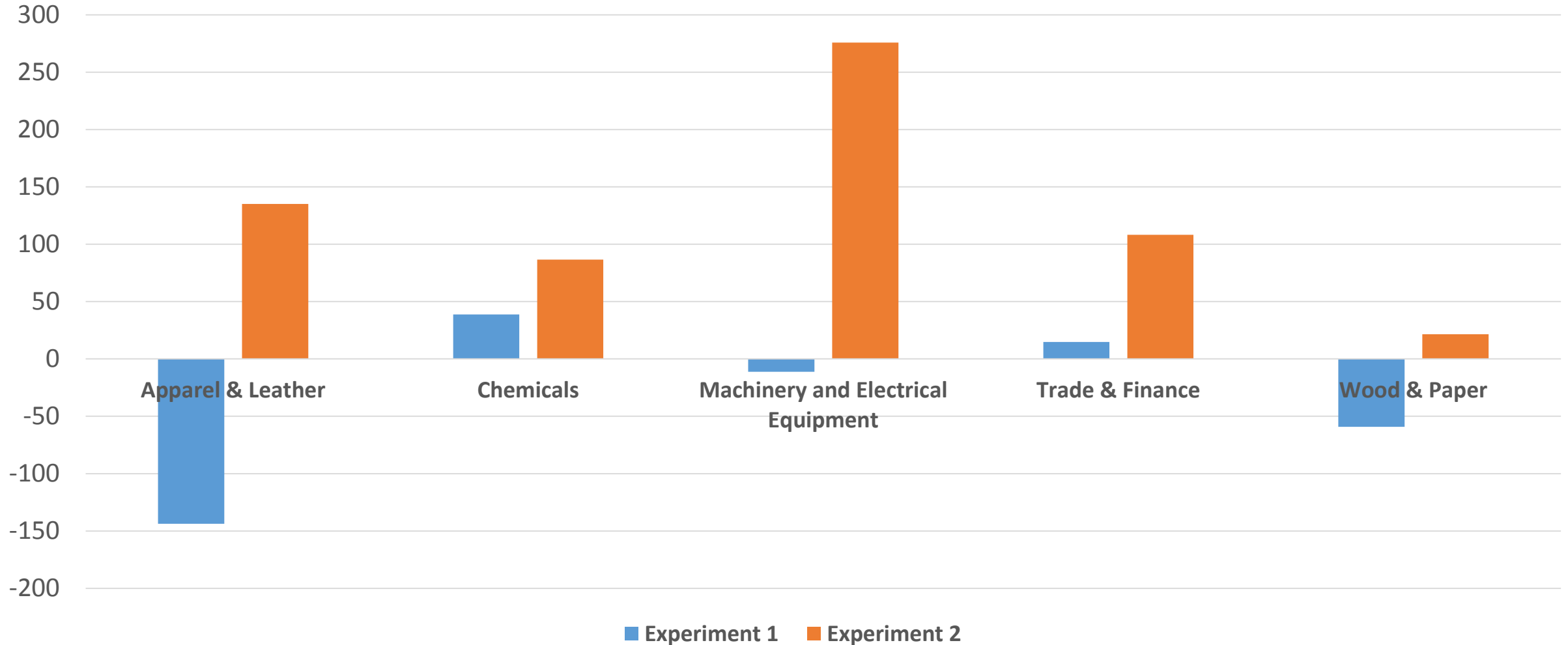


Experiment 2 Results

- China gains overall, despite worsening terms of trade effect
- USA largest positive spillover effect
 - Also positive spillover effect to EU, Japan, and Middle East (excl. Egypt)
- For USA, terms of trade effect improves, but overall welfare impact remains negative under trade liberalization

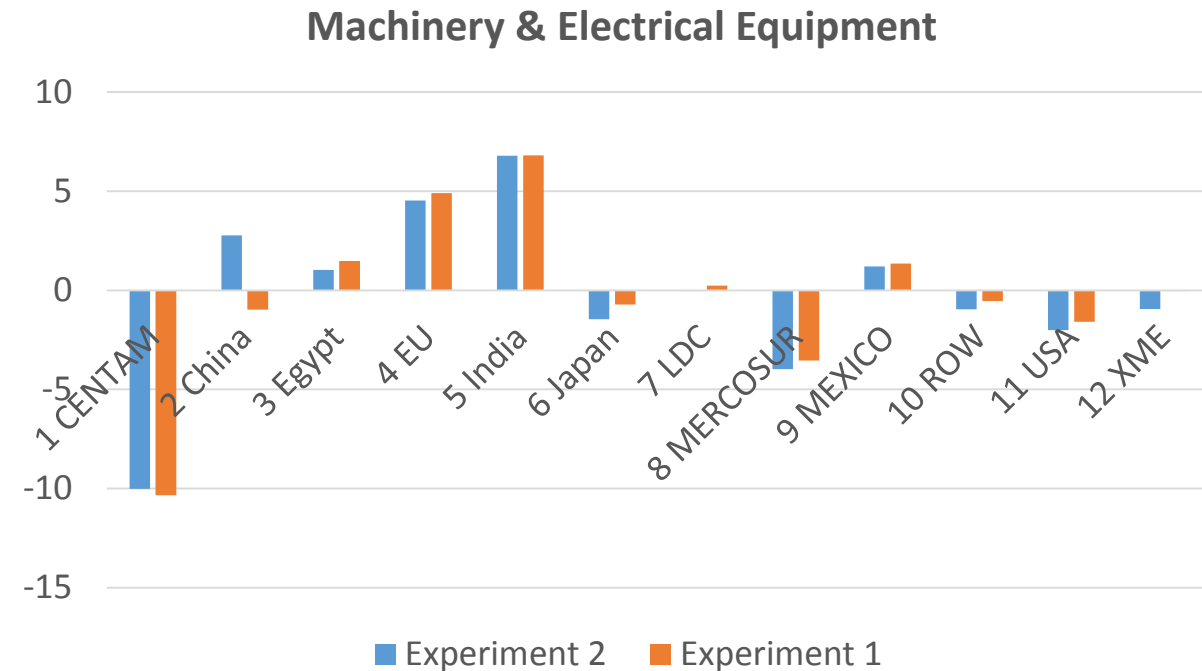
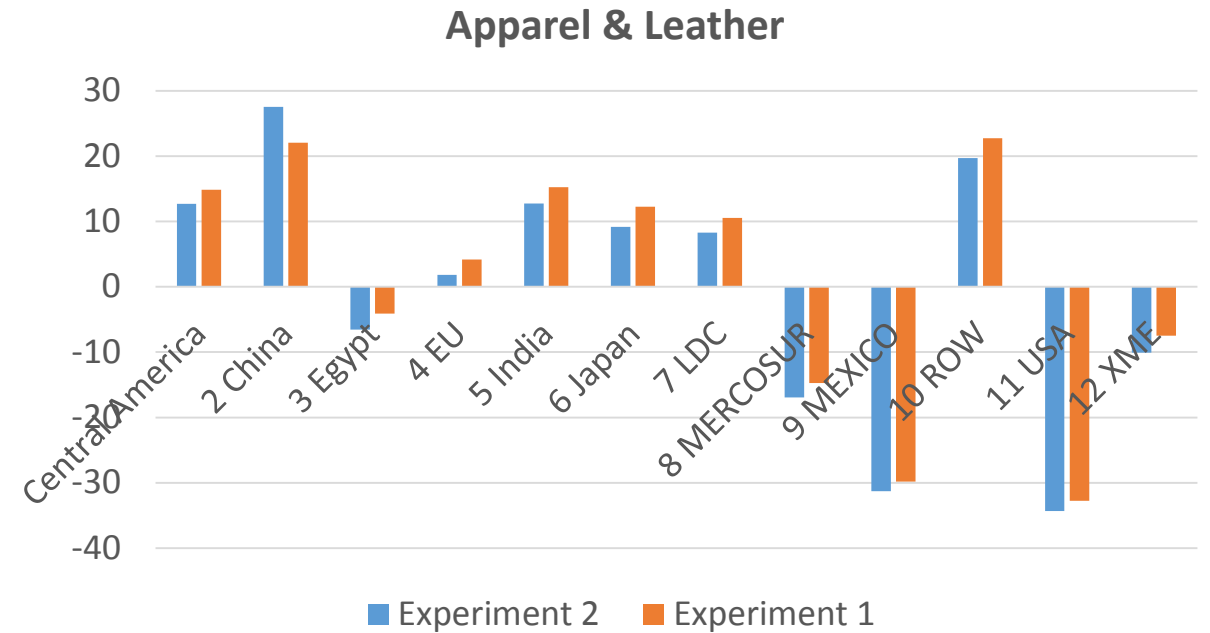
Experiment 2: Impact on USA

Terms of Trade (Welfare) Gains by Sector



Sector Analysis

- Additional unskilled labor in China increased production and lowered prices for labor-intensive sectors
- U.S. imports more from China overall, reducing imports from other regions



Small Group Application: Doha Development Round and Projected Impacts

- Initial model examined impacts of trade liberalization under specific conditions
- Using the initial framework:
 - Examined sensitivity of the original model to closure changes
 - Compared multilateral and bilateral scenarios for an Egypt-EU agreement
 - Examined impact on LDCs:
 - A closer look at the Doha Development Round's impact
 - The impact of trade liberalization on agriculture in developing countries
 - Compared initial scenario with alternative labor closures and a shock to the labor supply